



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

### Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

### About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

Stanford University Libraries

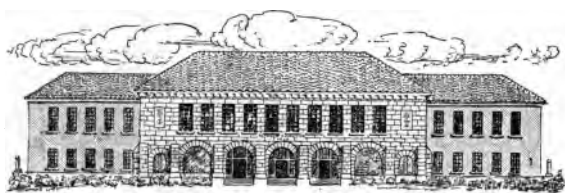


3 6105 007 947 240

CIRCULARS OF INFORMATION  
OF THE  
U. S. BUREAU OF EDUCATION  
—  
1874.

LIBRARY OF THE  
Leland Stanford Junior University

88 B 124



SCHOOL OF EDUCATION  
LIBRARY









①

CIRCULARS OF INFORMATION

OF THE

U.S.

= BUREAU OF EDUCATION

A  
FOR

THE YEAR 1874.

---

WASHINGTON:  
GOVERNMENT PRINTING OFFICE  
1875.

20-1111.

i, 11





A12729

C

## GENERAL CONTENTS.

---

General title .....	i, ii
General contents .....	iii, iv
Prefatory note and errata .....	v, viii
Circular of Information No. 1, 1874:	
Proceedings of the Department of Superintendence of the National Educational Association .....	1-78
Circular of Information No. 2, 1874:	
Drawing in public schools: the present relation of art to education in the United States .....	79-134
Circular of Information No. 3, 1874:	
History of secondary instruction in Germany .....	135-222



## PREFATORY NOTE.

---

The present volume follows the example of that for the year 1873 in being composed of material published during the year 1874 in the form of Circulars of Information from this Office.

The material contained in Circular No. 2 will probably be republished during the present year with considerable additions and in an improved form.

Circular No. 3 is believed to be the most complete, succinct, and authentic description of German secondary education published in the English language.

Each circular has its separate title, table of contents, (to which readers are referred,) and numeration of pages. Each page is also numbered consecutively at the bottom from 1 to 221.

Attention is invited to the following errata :

Page 9, seventeenth line from bottom : read B. G. Northrop, instead of B. G. Northrup.

Page 9, third line from bottom : read Pickard, instead of Prichard.

Page 27, third line : read B. W. Byrne, instead of E. W. Byrne.

Page 27, fourth line : read D. G. Beede, instead of D. E. Beede.

Page 27, fifth line : read T. W. Bicknell, instead of T. B. Bicknell.

Page 50 : read Schwarz-Senborn, instead of Schwartz-Senborn.

U. S. BUREAU OF EDUCATION,

*Washington, 1875.*



---

---

# CIRCULARS OF INFORMATION.

---

---



**CIRCULARS OF INFORMATION**

**OF THE**

**BUREAU OF EDUCATION.**

---

**No. 1—1874.**

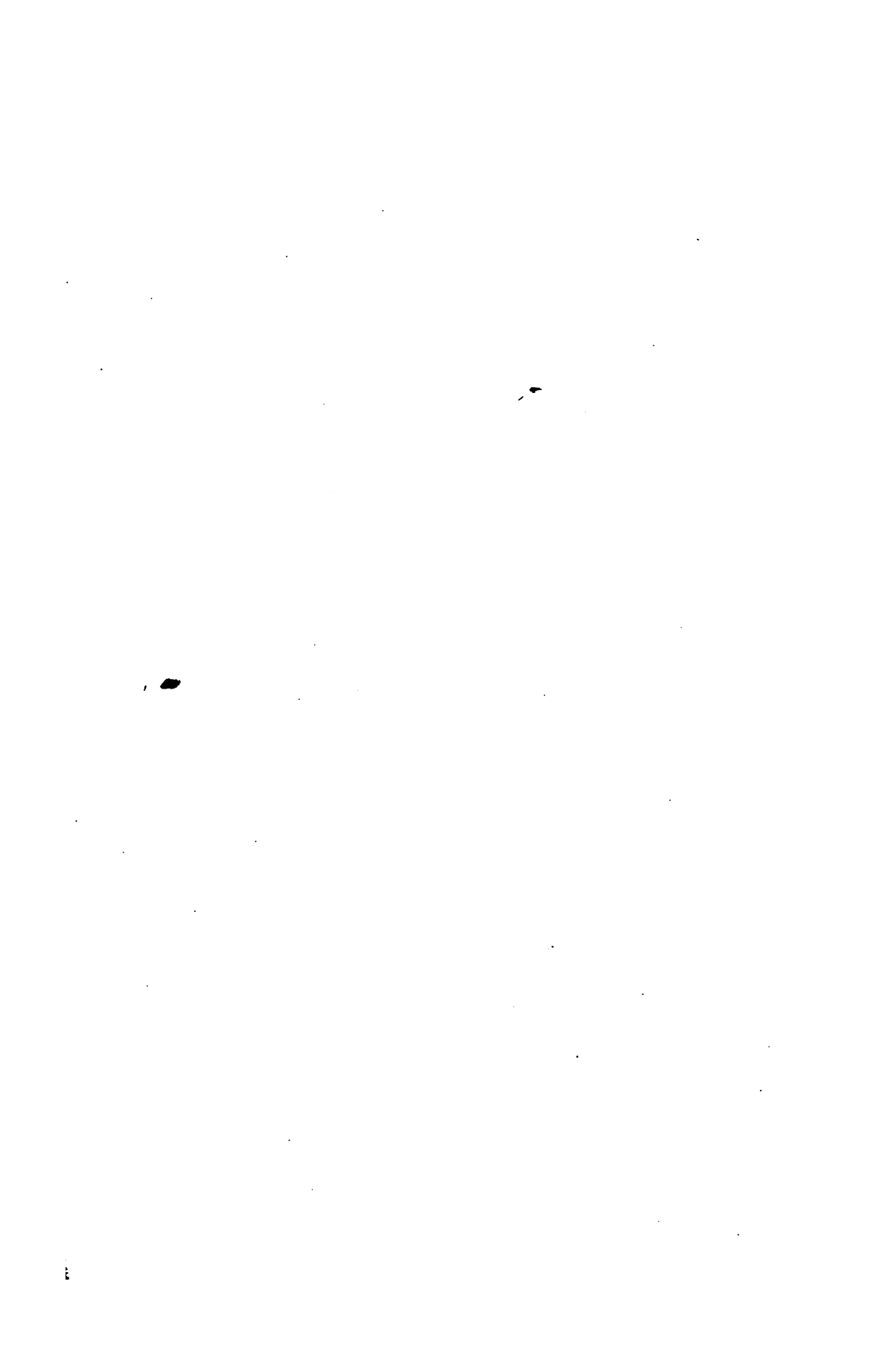
---

**PROCEEDINGS OF THE DEPARTMENT OF SUPERINTENDENCE  
OF THE NATIONAL EDUCATIONAL ASSOCIATION.**

---

**WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1874.**





## CONTENTS.

---

	Page.
Letter of the Commissioner of Education to the Secretary of the Interior.....	5
Address of the president of the convention.....	10
George J. Luckey's plan and form for publishing the principal statistical tables on education, (Statement A) .....	13
(Statement B) .....	14
Address of President A. D. White .....	27
Remarks of Hon. J. S. Morrill, United States Senator .....	42
Resolutions reported by the committee on national aid to education.....	53
Remarks of General Joseph R. Hawley, M. C.....	54
Remarks of Hon. W. D. Kelley, M. C .....	57
Address of Hon. J. D. Philbrick .....	62
Resolutions reported by the committee on the relations of the General Government to education in the District of Columbia.....	71
Remarks of the Commissioner of Education.....	71
Resolutions reported by the committee on resolutions .....	72
Appendix A .....	73
Appendix B .....	73



DEPARTMENT OF THE INTERIOR,  
BUREAU OF EDUCATION,  
*Washington, D. C., June 17, 1874.*

SIR: The proceedings of the late meeting of the Department of Superintendence of the National Teachers' Association have been submitted to me for publication. They contain a diverse but interesting expression of opinion from the eminent gentlemen in attendance and very much valuable information, for which there is a great demand upon this Office. As a means of relief to our clerical work in answering this demand, I have the honor to recommend their publication. Moreover, in this way the valuable suggestions they contain will reach a much larger number of persons interested.

Very respectfully, your obedient servant,

JOHN EATON,  
*Commissioner.*

Hon. C. DELANO,  
*Secretary of the Interior.*

Approved, and publication ordered.

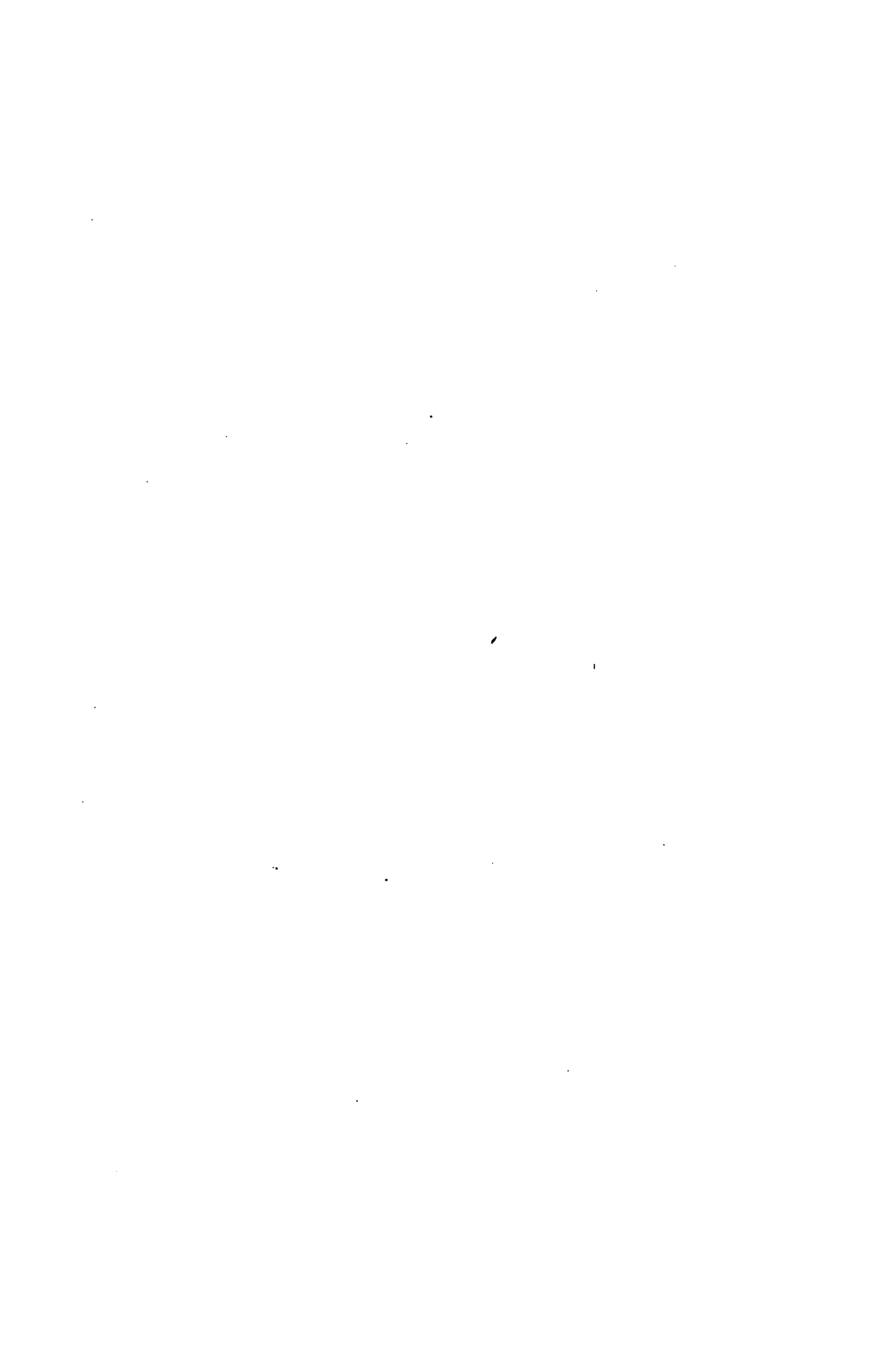
C. DELANO, *Secretary.*



---

## PROCEEDINGS—FIRST DAY.

---



# DEPARTMENT OF SUPERINTENDENCE, NATIONAL EDUCATIONAL ASSOCIATION,

[Meeting in Washington, D. C., January 29, 1874.]

## FIRST DAY.

The Department of Superintendence of the National Educational Association, agreeably to arrangements previously made, assembled in the legislative hall, Washington, D. C., this morning at 10½ o'clock.

The members present at the opening of the meeting were as follows: Rev. J. M. P. Atkinson, D. D., president of Hampden Sidney College, Farmville, Va.; Hon. W. H. Ruffner, State-superintendent, Richmond, Va.; G. F. T. Cooke, superintendent of colored-schools, Washington and Georgetown, D. C.; Charles Parker, ex-superintendent, Houston, Tex.; J. S. Edgerly, superintendent, Manchester, N. H.; R. W. Stevenson, superintendent, Columbus, Ohio; Hon. T. W. Harvey, State-commissioner of education, Columbus, Ohio; Hon. B. W. Byrne, State-superintendent, Charleston, W. Va.; Richard L. Carne, superintendent, Alexandria, Va.; R. K. Buehrle, superintendent, Allentown, Pa.; Hon. M. B. Hopkins, State-superintendent, Indianapolis, Ind.; Hon. Thomas W. Bicknell, State-commissioner of education, Providence, R. I.; A. P. Marble, superintendent, Worcester, Mass.; George J. Luckey, superintendent, Pittsburg, Pa.; Hon. J. P. Wickersham, State-superintendent, Harrisburg, Pa.; Hon. Daniel G. Beede, State-superintendent, Concord, N. H.; William T. Curran, superintendent, Sandusky, Ohio; Hon. B. G. Northrup, secretary of State-board of education, New Haven, Conn.; Hon. J. K. Jillson, State-superintendent, Columbia, S. C.; J. D. Philbrick, superintendent, Boston, Mass.; Hon. Andrew D. White, president of Cornell University, Ithaca, N. Y.; Ariel Parish, superintendent, New Haven, Conn.; William R. Creery, superintendent, Baltimore, Md.; Hon. M. A. Newell, State-superintendent, Baltimore, Md.; George L. Farnham, superintendent, Binghamton, N. Y.; J. O. Wilson, superintendent, Washington and Georgetown, D. C.; J. H. Binford, superintendent, Richmond, Va.; A. J. Rickoff, superintendent, Cleveland, Ohio; Prof. George F. Comfort, Syracuse, N. Y.; J. C. Graham, Meadville, Pa.

Letters were received from the following gentlemen, expressing regret at their inability to be present and their best wishes for the success of the meeting: E. E. White, Columbus, Ohio.; S. H. White, Peoria, Ill.; John Hancock, Cincinnati, Ohio; J. L. Prichard, Chicago, Ill.; Hon. Joseph White, secretary of the Massachusetts board of education; Hon. John Monteith, Jefferson City, Mo.; and Messrs. Lupton, of Alabama;



Pearce, of New Brunswick, N. J.; Brown, of New Orleans, La.; Horton, of Williamsport, Pa.; Snow, of Auburn, N. Y.; and others.

The meeting was called to order by the president, J. H. Binford, superintendent of schools, Richmond, Va., and opened with prayer by Rev. J. D. Mitchell, D. D., of Alexandria, Va.

#### ADDRESS OF THE PRESIDENT.

The president then said :

GENTLEMEN OF THE DEPARTMENT OF SUPERINTENDENCE: After consultation with the United States Commissioner of Education, this department has been assembled to-day in obedience to a resolution passed by you at Elmira in August last. The limited time before the meeting has prevented the preparation of a definite programme. In the circular issued January 13, only a few general subjects were suggested for consideration, leaving to individual members, as time and circumstances might allow, to propose questions which might be suggested in the course of our discussion.

Where there is such a vast field and when practical men meet for mutual encouragement and instruction, I apprehend we need have no difficulty in employing our time profitably. Various and vital questions affecting the educational interests of the country are continually arising, the proper solution of which requires careful thought and patient investigation. It is matter for congratulation that so many of the representative educators of the country should meet here in the National Capital to discuss some of these varied questions and attempt to find the proper solution of many perplexing details, the management of which daily requires our utmost skill and ingenuity, and to endeavor to so generalize our plans as to enable us to accomplish our work with greater uniformity, and thus secure more satisfactory results.

To gentlemen who, in their daily duties, are continually reminded of the necessity for condensation and brevity, it is only necessary for me to say that our time is short and that we have much to do.

I hope, gentlemen, we may find our meeting pleasant and profitable, and go away satisfied with its results and feeling that, as a united brotherhood, we have the sympathy, support, and co-operation of each other.

Hon. J. O. WILSON, in behalf of the board of education of Washington, briefly expressed the hearty welcome extended to the department by them, with the assurance that they desired to tender all the hospitality possible for the sake of the cause, and would endeavor to make this visit to the Capital as full of interest and as pleasant as possible to all the members of the department.

In the absence of the secretary of the department, (Mr. Armstrong, of New York,) Mr. A. P. Marble, of Worcester, Mass., was chosen secretary pro tempore.

On motion of General EATON, Commissioner of Education, it was voted that an invitation be extended to the members of the Committees on Education and Labor of the Senate and House of Representatives to attend the sessions of this department; particularly, that they be invited, with their friends, to attend the meeting this evening, to listen to the address of President White; also, that a similar invitation be extended to the Committee of the House of Representatives on the Centennial Exposition at Philadelphia, and especially to Ex-Governor Hawley, the president of the Centennial Commission, and to Hon. William D. Kelley, chairman of the Centennial Committee of the House.

On motion of Hon. J. O. WILSON, similar invitations were extended to the President of the United States, to the honorable Secretary of the Interior, and to Hon. A. R. Shepherd, governor of the District of Columbia.

The PRESIDENT called the attention of the department to the fact that it had been suggested that one of the important subjects which should be considered is the relation of this department to the Centennial Exposition and the manner in which education shall be represented there.

General EATON. The subject is so comprehensive and so difficult to be properly adjusted, that the department may find a large share of its work in connection with this subject. Two plans have been suggested: One, to appoint a committee of three, who shall at once meet to consider the question and report upon the subdivision of the subjects and their assignment to permanent committees, to work out the important matters to be presented for the consideration of the department. The other proposition is that we have a general discussion here, and then appoint a large committee to lay out the work and report before we adjourn. I have no particular preference for either of these plans. But you will readily see that we shall have the questions how far the statistics of the country shall be summarized; how many details shall be reported upon; how much can be reduced to a uniform plan, and what cannot be thus reduced to uniformity. You will have the question how State-systems can be best represented and how city-systems can be best shown. And then there will be the questions of libraries, of university-education, and of all the different institutions of the country for the blind, for the deaf and dumb, and every other form of culture.

Hon. T. W. BICKNELL thought the subject to be considered should go to committees; but that, while in the hands of committees, a general discussion might be had upon certain topics. He accordingly moved that a committee of three be appointed by the Chair, to select such topics as shall be brought before the department.

The motion was agreed to, and General Eaton, Hon. W. H. Ruffner, and Hon. T. W. Harvey were appointed as the committee.

On motion of Hon. Mr. Bicknell, the school-board of the city of Wash-

ington was invited to attend the sessions of the department and participate in its deliberations.

General Eaton, from the committee to arrange the order of business, reported, recommending that the convention proceed to the White House to pay their respects to the President; also, to the office of Governor Shepherd, and to that of the Secretary of the Interior, for the same purpose.

#### A CALL ON THE PRESIDENT.

The report was adopted, and the convention then took a recess and proceeded in a body to the Executive Mansion, assembling in the East Room. The President soon afterward made his appearance, when General Eaton introduced Mr. J. H. Binford, of Virginia, president of the convention, who said:

MR. PRESIDENT: As representatives of the executive officers of education in the country, we are happy to pay our respects to the Chief Executive of the United States and to assure you of our appreciation of your uniform interest in the cause of education and courtesy towards its friends.

#### RESPONSE BY THE PRESIDENT.

The President said:

I am very glad to meet the gentlemen who are engaged in so worthy a cause as that of education, and one upon which depends so intimately the stability of republics particularly. I believe that republics can only stand upon the education and enlightenment of the people.

The members of the convention were then individually introduced to the President by General Eaton. Several of them expressed their thanks to the President for the attention which he gave the subject of education in his last annual message and said they regarded that as an evidence of the deep interest he takes in the promotion of education among the people.

#### A CALL UPON GOVERNOR SHEPHERD.

The members then proceeded to the governor's office, corner of Pennsylvania avenue and Seventeenth street, for the purpose of paying their respects to Governor Shepherd.

The president, Mr. Binford, was presented to the governor by Hon. J. O. Wilson.

Mr. Binford said:

We are happy to pay our respects to you as the executive of the National Capital, from which have emanated not only the legislative measures for our common country, but very many wise educational ones.

#### RESPONSE BY THE GOVERNOR.

The governor replied:

I am very glad, gentlemen, to meet you and to extend to you the hospitality of the city. I hope to meet you all at my house before your departure from the city.

The delegates were then severally introduced to the governor by Superintendent Wilson; after which they proceeded to the Department of the Interior, to pay their

#### RESPECTS TO SECRETARY DELANO.

They were received in the Secretary's office. Mr. Binford was introduced to the Secretary by General Eaton, and said the members of the convention were pleased, as educators, to have an opportunity of paying their respects to the Secretary of the Interior, who, with the aid of his Commissioner of Education, has done so much to advance the cause of education in the United States.

#### RESPONSE OF THE SECRETARY OF THE INTERIOR.

The Secretary responded as follows:

I am very glad to see you, gentlemen; not less so because you are engaged in one of the most interesting and important occupations that can have a bearing upon our civilization. The stability and welfare of our institutions must necessarily, for their perpetuity, depend upon the promotion of education. A well-educated and intelligent community ought to sustain, and I trust will be able to sustain, a republican form of government; and so long as persons continue to pursue the promotion of this great interest and make it a success, so long I shall have hope of the institutions which we have established.

The delegates then proceeded to the hall of the house of delegates, where the convention was called to order by the president, Mr. Binford.

Mr. George J. Luckey, superintendent of schools at Pittsburg, Pa., then read a paper in favor of a uniform plan and form for publishing the principal statistical tables on education.

#### STATEMENT A.

##### *Teachers, buildings, and schools.*

##### Schools and teachers:

Population of city, last United States census.....	
Number of high-school-buildings .....	
Number of high schools .....	
Number of male teachers in high school, (including principal).....	
Number of female teachers in high school, (including principal).....	
Number of normal-school-buildings .....	
Number of normal schools .....	
Number of male teachers in normal schools, (including principal).....	
Number of female teachers in normal schools, (including principal) .....	
Number of ward- or district-school-buildings .....	
Number of school-districts .....	
Number of male teachers in district-schools, (including principal) .....	
Number of female teachers in district-schools, (including principal) .....	
Total number of teachers in city.....	

##### *Enrollment.*

Average monthly enrollment in high school .....	
Average daily attendance in high school.....	

Average monthly enrollment in normal school .....  
 Average daily attendance in normal school.....  
 Average monthly enrollment in district-school .....  
 Average daily attendance in district-school.....  
 Total monthly enrollment in city.....  
 Total average daily attendance in city.....

*Cost.*

Cost of teaching each pupil, estimated upon the monthly enrollment .....  
 Cost, per pupil, for incidental expenses,\* (estimated on monthly enrollment).  
 Total cost per pupil.....

*Evening-schools.*

Number of evenings school was open .....  
 Number of male teachers employed .....  
 Number of female teachers employed.....  
 Total number of teachers employed.....  
 Number of male pupils enrolled .....  
 Number of female pupils enrolled .....  
 Total number of pupils enrolled.....  
 Average attendance of males .....  
 Average attendance of females .....  
 Total average attendance.....

*Expenses.*

Paid for salaries .....  
 Paid for gas.....  
 Paid for janitors' services.....  
 Total expenditures .....

## STATEMENT B.—FINANCES.

*Receipts.*

Value of school-property, including ground, buildings, and furniture.....  
 Cash-value of real and personal property of city.....  
 Assessed valuation of real and personal property of city .....  
 Mills levied for educational purposes .....  
 Amount collected by tax for educational purposes.....  
 Amount raised from other sources.....  
 Total amount raised for educational purposes.....

*Expenses, (not incidental.)*

Expended for purchase of ground .....  
 Expended for building.....  
 Expended for repairing.....  
 Expended in payment of floating indebtedness.....  
 Expended in payment of bonded indebtedness.....  
 Expended in payment of interest.....  
 Expended in payment of rent.....  
 Expended for furniture and other improvements of a lasting nature.....

Total .....

---

\* In statement B.

*Expenses, (incidental.)*

Expended for fuel.....	
Expended for teachers' record-books, stationery, and printing .....	
Expended for salary of janitors .....	
Expended for salary of secretaries.....	
Expended for salary of superintendent.....	
Expended for salary of clerks and messengers.....	
Expended for water.....	
Expended for insurance.....	
Expended for other purposes.....	
Total .....	<hr/> <hr/>

STATEMENT C.

In this statement the branches which are taught in the district-, normal, and high schools should be given under their respective heads.

STATEMENT D.

In this should be given the schedule of salaries of superintendents, secretaries, teachers, janitors, and other school-officers.

STATEMENT E.

Should head a blank, in which should be given special items which are deemed important by the superintendent.

Hon. Mr. BICKNELL. In accordance with the plan suggested this morning, I move that this paper be referred to a committee, to report, at this meeting or at some future time, as to a uniform plan of reporting statistics for the various cities of the United States.

Mr. J. ORMOND WILSON. I have no idea that this subject can be satisfactorily settled during the short time that this department will be in session. I think that, perhaps, after a full opportunity for the discussion of the subject has been had, it might be referred to a committee with full power; perhaps to a committee to consist of some gentlemen who are not present. We are not fully represented here to-day, and the superintendents in the Western States have, as I know, given great attention to the subject of statistics. I think, therefore, we should meet this question, after discussion, by the appointment of a committee, with the United States Commissioner of Education as chairman. We wish to ascertain, first, what statistics will be of general importance and general interest, and to agree upon a certain line of statistics, so far as to enable us to present uniform reports to the Commissioner of Education. Therefore, I think, we should have a committee which will fairly represent all parts of the country, and it may be three or four months, or until the meeting next summer, before the plan will be fully matured. I feel that this is a very important matter. Not long since the governor of the District took occasion to say that he thought our education was altogether too expensive. How could I meet that? I addressed super-

intendents of other cities, who reported to me what was the cost for teachers and incidentals, and I was enabled to show that education here, as compared with that of other cities, was not expensive. I knew I could fall back upon Boston, where Mr. Philbrick takes a special pride in the fact that education costs so much; when it costs \$35 or \$36 per pupil for a year, this is held up as an evidence of progress in education. There are several important questions respecting which we can all agree and upon which certain tables can be compiled, say four or five, in which all States and cities can agree in presenting their annual reports upon certain items, all calculated upon the same basis, to meet the same questions. That is what the Commissioner of Education wants.

One question would be, how many children have been educated to any extent; how many names have been on the school-register? Another, what is the average number of names; and what is the daily attendance; and a fourth, more important in this District than any other, what burdens do the people of the community sustain to support education; or, in other words, what tax do they pay? I ask Chicago, Cleveland, Buffalo, and other cities, "What tax do you pay?" Perhaps I get this answer, that they pay 66 $\frac{2}{3}$  cents on the hundred dollars, or a little over six mills on the dollar. But I learn that Buffalo assesses property at one-half its value. We should know the real value of the property of a city, and then the rate of taxation, in order to settle the burden on any community. Then there may be a State-tax, a city-tax, or there may be a permanent fund, and the revenues for the support of education may be derived from three or four sources.

I feel a great interest in this subject, and am very glad it has been brought before the department. After it has been fully discussed, I hope it will be referred to a committee with full powers, of which the Commissioner of Education shall be the chairman. I think we may then arrive at an agreement upon certain tables which shall be national, and can be filled up uniformly throughout the country.

Hon. Mr. BICKNELL. I think this subject one of the most important that can be brought before this body, and I am glad it meets us at the outset. The question was put to me by the governor of Rhode Island on the same point as that referred to by Mr. Wilson. The governor wished me to show him the exact cost, *per capita*, of education in Rhode Island. I immediately turned to General Eaton's reports and showed him the statement of the whole. I found various bases established by the several States. First, in regard to enrollment. In some States all are enrolled who are under 21 years of age; in some the school-age is from 6 to 21; in some from 5 to 15; and others 6 to 14. So that I found it impossible to determine anything in reference to the question of school-attendance on which to base a comparison.

Again, I found that some States show the number of pupils educated at school; in other States it is the average attendance throughout the year, or during four terms. The question as to the amount of educa-

tion in each is wholly undetermined. I could not tell, and I think no one of the superintendents here to-day can tell. Again, in regard to expenditures; what are the regular expenditures and what are the incidentals? So, as to the other points already referred to, they certainly should be unified, in order that all the facts may be brought to the same basis and that our judgment may be equal in reference to education in the different States.

I concur in the desire that General Eaton may be chairman of the committee, which I hope will be appointed, to report at another time.

Mr. WILLIAM R. CREERY. It has been a question with me whether we could discuss this subject at the present time, a motion having been made to refer the whole subject to a committee. As the president, however, has already permitted some debate on the merits of the question, I will say that it was my pleasure two years ago to present a paper on this subject to the convention at St. Louis. Allusion has been made to what was done by western superintendents at that meeting and what has been done since. In my opinion, what they did amounts to nothing.

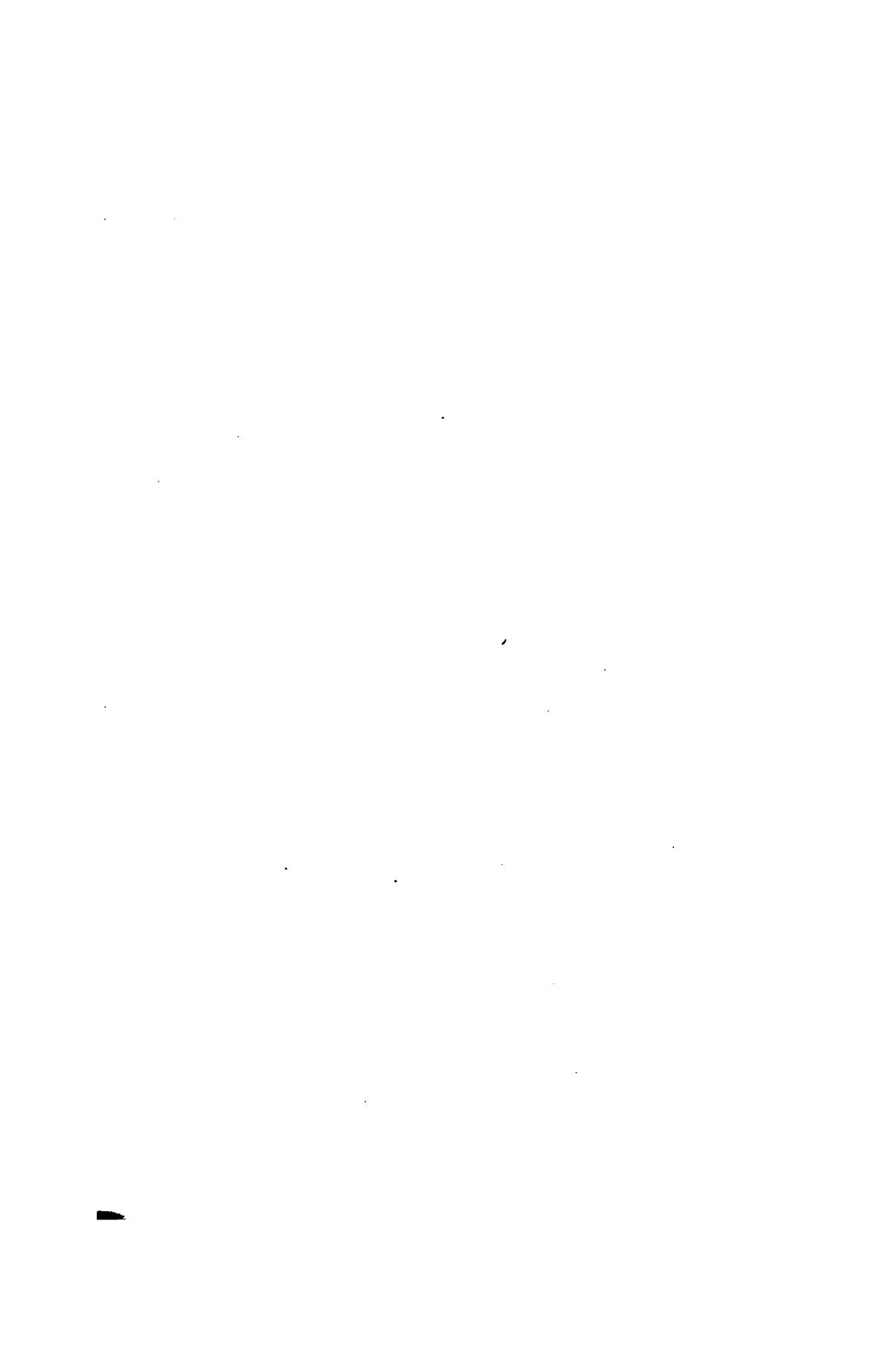
At that convention I took strong ground against statistics generally, and pronounced them worthless for purposes of comparison, as they simply deluded the unwary. I used some plain language on the subject, which created a little feeling among my brother-superintendents who prided themselves on their splendid exhibits, the effort seeming to be in many cases to present school-statistics in their best light, and not in the truest light.

I have had the question put to me as to the cost of education per pupil in the city of Baltimore. I have said in reply, "Upon what basis do you wish me to calculate the cost? Shall I include salaries, rents, ground-rents, books and stationery, incidentals, interest on cost of buildings? Or shall I omit some of these charges? I can calculate it just as you wish and make the cost per pupil all the way from \$10 to \$23 per annum. If I wish to make the cost per pupil small, I take a large divisor and a small dividend; that is, I take all the pupils who have been in during the year for a divisor, and only a part of the total cost for a dividend. The truth is, as things are now, the calculation of cost is a kind of sliding scale, to be used as superintendents find it necessary.

Superintendents are sometimes publicly attacked about the expenses of their schools. They must frequently defend themselves by using the statistics of other cities. How important is it, then, that these statistics should be made up in some generally known way. We should have a common language on statistics, that could be understood, on the mere reading, by any one of ordinary intelligence.

I found it stated in the report of a western city that in a certain school, for a period of six months, there had not been a single case of tardiness. I pronounced this marvelous. It was so to me. It almost surpasses human belief. I could not receive the statement as true.





# DEPARTMENT OF SUPERINTENDENCE, NATIONAL EDUCATIONAL ASSOCIATION,

[Meeting in Washington, D. C., January 29, 1874.]

## FIRST DAY.

The Department of Superintendence of the National Educational Association, agreeably to arrangements previously made, assembled in the legislative hall, Washington, D. C., this morning at 10½ o'clock.

The members present at the opening of the meeting were as follows: Rev. J. M. P. Atkinson, D. D., president of Hampden Sidney College, Farmville, Va.; Hon. W. H. Ruffner, State-superintendent, Richmond, Va.; G. F. T. Cooke, superintendent of colored-schools, Washington and Georgetown, D. C.; Charles Parker, ex-superintendent, Houston, Tex.; J. S. Edgerly, superintendent, Manchester, N. H.; R. W. Stevenson, superintendent, Columbus, Ohio; Hon. T. W. Harvey, State-commissioner of education, Columbus, Ohio; Hon. B. W. Byrne, State-superintendent, Charleston, W. Va.; Richard L. Carne, superintendent, Alexandria, Va.; R. K. Buelrle, superintendent, Allentown, Pa.; Hon. M. B. Hopkins, State-superintendent, Indianapolis, Ind.; Hon. Thomas W. Bicknell, State-commissioner of education, Providence, R. I.; A. P. Marble, superintendent, Worcester, Mass.; George J. Luckey, superintendent, Pittsburg, Pa.; Hon. J. P. Wickersham, State-superintendent, Harrisburg, Pa.; Hon. Daniel G. Beede, State-superintendent, Concord, N. H.; William T. Curran, superintendent, Sandusky, Ohio; Hon. B. G. Northrup, secretary of State-board of education, New Haven, Conn.; Hon. J. K. Jillson, State-superintendent, Columbia, S. C.; J. D. Philbrick, superintendent, Boston, Mass.; Hon. Andrew D. White, president of Cornell University, Ithaca, N. Y.; Ariel Parish, superintendent, New Haven, Conn.; William R. Creery, superintendent, Baltimore, Md.; Hon. M. A. Newell, State-superintendent, Baltimore, Md.; George L. Farnham, superintendent, Binghamton, N. Y.; J. O. Wilson, superintendent, Washington and Georgetown, D. C.; J. H. Binford, superintendent, Richmond, Va.; A. J. Rickoff, superintendent, Cleveland, Ohio; Prof. George F. Comfort, Syracuse, N. Y.; J. C. Graham, Meadville, Pa.

Letters were received from the following gentlemen, expressing regret at their inability to be present and their best wishes for the success of the meeting: E. E. White, Columbus, Ohio.; S. H. White, Peoria, Ill.; John Hancock, Cincinnati, Ohio; J. L. Prichard, Chicago, Ill.; Hon. Joseph White, secretary of the Massachusetts board of education; Hon. John Monteith, Jefferson City, Mo.; and Messrs. Lupton, of Alabama;

Pearce, of New Brunswick, N. J.; Brown, of New Orleans, La.; Horton, of Williamsport, Pa.; Suow, of Auburn, N. Y.; and others.

The meeting was called to order by the president, J. H. Binford, superintendent of schools, Richmond, Va., and opened with prayer by Rev. J. D. Mitchell, D. D., of Alexandria, Va.

#### ADDRESS OF THE PRESIDENT.

The president then said :

GENTLEMEN OF THE DEPARTMENT OF SUPERINTENDENCE: After consultation with the United States Commissioner of Education, this department has been assembled to-day in obedience to a resolution passed by you at Elmira in August last. The limited time before the meeting has prevented the preparation of a definite programme. In the circular issued January 13, only a few general subjects were suggested for consideration, leaving to individual members, as time and circumstances might allow, to propose questions which might be suggested in the course of our discussion.

Where there is such a vast field and when practical men meet for mutual encouragement and instruction, I apprehend we need have no difficulty in employing our time profitably. Various and vital questions affecting the educational interests of the country are continually arising, the proper solution of which requires careful thought and patient investigation. It is matter for congratulation that so many of the representative educators of the country should meet here in the National Capital to discuss some of these varied questions and attempt to find the proper solution of many perplexing details, the management of which daily requires our utmost skill and ingenuity, and to endeavor to so generalize our plans as to enable us to accomplish our work with greater uniformity, and thus secure more satisfactory results.

To gentlemen who, in their daily duties, are continually reminded of the necessity for condensation and brevity, it is only necessary for me to say that our time is short and that we have much to do.

I hope, gentlemen, we may find our meeting pleasant and profitable, and go away satisfied with its results and feeling that, as a united brotherhood, we have the sympathy, support, and co-operation of each other.

Hon. J. O. WILSON, in behalf of the board of education of Washington, briefly expressed the hearty welcome extended to the department by them, with the assurance that they desired to tender all the hospitality possible for the sake of the cause, and would endeavor to make this visit to the Capital as full of interest and as pleasant as possible to all the members of the department.

In the absence of the secretary of the department, (Mr. Armstrong, of Iowa,) Mr. A. P. Marble, of Worcester, Mass., was chosen secretary *pro tempore*.

On motion of General EATON, Commissioner of Education, it was voted that an invitation be extended to the members of the Committees on Education and Labor of the Senate and House of Representatives to attend the sessions of this department; particularly, that they be invited, with their friends, to attend the meeting this evening, to listen to the address of President White; also, that a similar invitation be extended to the Committee of the House of Representatives on the Centennial Exposition at Philadelphia, and especially to Ex-Governor Hawley, the president of the Centennial Commission, and to Hon. William D. Kelley, chairman of the Centennial Committee of the House.

On motion of Hon. J. O. WILSON, similar invitations were extended to the President of the United States, to the honorable Secretary of the Interior, and to Hon. A. R. Shepherd, governor of the District of Columbia.

The PRESIDENT called the attention of the department to the fact that it had been suggested that one of the important subjects which should be considered is the relation of this department to the Centennial Exposition and the manner in which education shall be represented there.

General EATON. The subject is so comprehensive and so difficult to be properly adjusted, that the department may find a large share of its work in connection with this subject. Two plans have been suggested: One, to appoint a committee of three, who shall at once meet to consider the question and report upon the subdivision of the subjects and their assignment to permanent committees, to work out the important matters to be presented for the consideration of the department. The other proposition is that we have a general discussion here, and then appoint a large committee to lay out the work and report before we adjourn. I have no particular preference for either of these plans. But you will readily see that we shall have the questions how far the statistics of the country shall be summarized; how many details shall be reported upon; how much can be reduced to a uniform plan, and what cannot be thus reduced to uniformity. You will have the question how State-systems can be best represented and how city-systems can be best shown. And then there will be the questions of libraries, of university-education, and of all the different institutions of the country for the blind, for the deaf and dumb, and every other form of culture.

Hon. T. W. BICKNELL thought the subject to be considered should go to committees; but that, while in the hands of committees, a general discussion might be had upon certain topics. He accordingly moved that a committee of three be appointed by the Chair, to select such topics as shall be brought before the department.

The motion was agreed to, and General Eaton, Hon. W. H. Ruffner, and Hon. T. W. Harvey were appointed as the committee.

On motion of Hon. Mr. Bicknell, the school-board of the city of Wash-

ington was invited to attend the sessions of the department and participate in its deliberations.

General Eaton, from the committee to arrange the order of business, reported, recommending that the convention proceed to the White House to pay their respects to the President; also, to the office of Governor Shepherd, and to that of the Secretary of the Interior, for the same purpose.

#### A CALL ON THE PRESIDENT.

The report was adopted, and the convention then took a recess and proceeded in a body to the Executive Mansion, assembling in the East Room. The President soon afterward made his appearance, when General Eaton introduced Mr. J. H. Binford, of Virginia, president of the convention, who said:

Mr. PRESIDENT: As representatives of the executive officers of education in the country, we are happy to pay our respects to the Chief Executive of the United States and to assure you of our appreciation of your uniform interest in the cause of education and courtesy towards its friends.

#### RESPONSE BY THE PRESIDENT.

The President said:

I am very glad to meet the gentlemen who are engaged in so worthy a cause as that of education, and one upon which depends so intimately the stability of republics particularly. I believe that republics can only stand upon the education and enlightenment of the people.

The members of the convention were then individually introduced to the President by General Eaton. Several of them expressed their thanks to the President for the attention which he gave the subject of education in his last annual message and said they regarded that as an evidence of the deep interest he takes in the promotion of education among the people.

#### A CALL UPON GOVERNOR SHEPHERD.

The members then proceeded to the governor's office, corner of Pennsylvania avenue and Seventeenth street, for the purpose of paying their respects to Governor Shepherd.

The president, Mr. Binford, was presented to the governor by Hon. J. O. Wilson.

Mr. Binford said:

We are happy to pay our respects to you as the executive of the National Capital, from which have emanated not only the legislative measures for our common country, but very many wise educational ones.

#### RESPONSE BY THE GOVERNOR.

The governor replied:

I am very glad, gentlemen, to meet you and to extend to you the hospitality of the city. I hope to meet you all at my house before your departure from the city.

The delegates were then severally introduced to the governor by Superintendent Wilson; after which they proceeded to the Department of the Interior, to pay their

RESPECTS TO SECRETARY DELANO.

They were received in the Secretary's office. Mr. Binford was introduced to the Secretary by General Eaton, and said the members of the convention were pleased, as educators, to have an opportunity of paying their respects to the Secretary of the Interior, who, with the aid of his Commissioner of Education, has done so much to advance the cause of education in the United States.

RESPONSE OF THE SECRETARY OF THE INTERIOR.

The Secretary responded as follows:

I am very glad to see you, gentlemen; not less so because you are engaged in one of the most interesting and important occupations that can have a bearing upon our civilization. The stability and welfare of our institutions must necessarily, for their perpetuity, depend upon the promotion of education. A well-educated and intelligent community ought to sustain, and I trust will be able to sustain, a republican form of government; and so long as persons continue to pursue the promotion of this great interest and make it a success, so long I shall have hope of the institutions which we have established.

The delegates then proceeded to the hall of the house of delegates, where the convention was called to order by the president, Mr. Binford.

Mr. George J. Luckey, superintendent of schools at Pittsburg, Pa., then read a paper in favor of a uniform plan and form for publishing the principal statistical tables on education.

STATEMENT A.

*Teachers, buildings, and schools.*

Schools and teachers:

Population of city, last United States census.....	
Number of high-school-buildings .....	
Number of high schools .....	
Number of male teachers in high school, (including principal).....	
Number of female teachers in high school, (including principal).....	
Number of normal-school-buildings .....	
Number of normal schools .....	
Number of male teachers in normal schools, (including principal).....	
Number of female teachers in normal schools, (including principal) .....	
Number of ward- or district-school-buildings .....	
Number of school-districts .....	
Number of male teachers in district-schools, (including principal) .....	
Number of female teachers in district-schools, (including principal) .....	
Total number of teachers in city.....	

*Enrollment.*

Average monthly enrollment in high school .....	
Average daily attendance in high school.....	

Average monthly enrollment in normal school .....  
 Average daily attendance in normal school .....  
 Average monthly enrollment in district-school .....  
 Average daily attendance in district-school .....  
 Total monthly enrollment in city .....  
 Total average daily attendance in city .....

*Cost.*

Cost of teaching each pupil, estimated upon the monthly enrollment .....  
 Cost, per pupil, for incidental expenses,\* (estimated on monthly enrollment) .....  
 Total cost per pupil .....

*Evening-schools.*

Number of evenings school was open .....  
 Number of male teachers employed .....  
 Number of female teachers employed .....  
 Total number of teachers employed .....  
 Number of male pupils enrolled .....  
 Number of female pupils enrolled .....  
 Total number of pupils enrolled .....  
 Average attendance of males .....  
 Average attendance of females .....  
 Total average attendance .....

*Expenses.*

Paid for salaries .....  
 Paid for gas .....  
 Paid for janitors' services .....  
 Total expenditures .....

## STATEMENT B.—FINANCES.

*Receipts.*

Value of school-property, including ground, buildings, and furniture .....  
 Cash-value of real and personal property of city .....  
 Assessed valuation of real and personal property of city .....  
 Mills levied for educational purposes .....  
 Amount collected by tax for educational purposes .....  
 Amount raised from other sources .....  
 Total amount raised for educational purposes .....

*Expenses, (not incidental.)*

Expended for purchase of ground .....  
 Expended for building .....  
 Expended for repairing .....  
 Expended in payment of floating indebtedness .....  
 Expended in payment of bonded indebtedness .....  
 Expended in payment of interest .....  
 Expended in payment of rent .....  
 Expended for furniture and other improvements of a lasting nature .....  
 Total .....

\* In statement B.

*Expenses, (incidental.)*

Expended for fuel.....	
Expended for teachers' record-books, stationery, and printing.....	
Expended for salary of janitors.....	
Expended for salary of secretaries.....	
Expended for salary of superintendent.....	
Expended for salary of clerks and messengers.....	
Expended for water.....	
Expended for insurance.....	
Expended for other purposes.....	
Total .....	<hr/> <hr/>

STATEMENT C.

In this statement the branches which are taught in the district-, normal, and high schools should be given under their respective heads.

STATEMENT D.

In this should be given the schedule of salaries of superintendents, secretaries, teachers, janitors, and other school-officers.

STATEMENT E.

Should head a blank, in which should be given special items which are deemed important by the superintendent.

Hon. Mr. BICKNELL. In accordance with the plan suggested this morning, I move that this paper be referred to a committee, to report, at this meeting or at some future time, as to a uniform plan of reporting statistics for the various cities of the United States.

Mr. J. ORMOND WILSON. I have no idea that this subject can be satisfactorily settled during the short time that this department will be in session. I think that, perhaps, after a full opportunity for the discussion of the subject has been had, it might be referred to a committee with full power; perhaps to a committee to consist of some gentlemen who are not present. We are not fully represented here to-day, and the superintendents in the Western States have, as I know, given great attention to the subject of statistics. I think, therefore, we should meet this question, after discussion, by the appointment of a committee, with the United States Commissioner of Education as chairman. We wish to ascertain, first, what statistics will be of general importance and general interest, and to agree upon a certain line of statistics, so far as to enable us to present uniform reports to the Commissioner of Education. Therefore, I think, we should have a committee which will fairly represent all parts of the country, and it may be three or four months, or until the meeting next summer, before the plan will be fully matured. I feel that this is a very important matter. Not long since the governor of the District took occasion to say that he thought our education was altogether too expensive. How could I meet that? I addressed super-



intendents of other cities, who reported to me what was the cost for teachers and incidentals, and I was enabled to show that education here, as compared with that of other cities, was not expensive. I knew I could fall back upon Boston, where Mr. Philbrick takes a special pride in the fact that education costs so much; when it costs \$35 or \$36 per pupil for a year, this is held up as an evidence of progress in education. There are several important questions respecting which we can all agree and upon which certain tables can be compiled, say four or five, in which all States and cities can agree in presenting their annual reports upon certain items, all calculated upon the same basis, to meet the same questions. That is what the Commissioner of Education wants.

One question would be, how many children have been educated to any extent; how many names have been on the school-register? Another, what is the average number of names; and what is the daily attendance; and a fourth, more important in this District than any other, what burdens do the people of the community sustain to support education; or, in other words, what tax do they pay? I ask Chicago, Cleveland, Buffalo, and other cities, "What tax do you pay?" Perhaps I get this answer, that they pay 66 $\frac{2}{3}$  cents on the hundred dollars, or a little over six mills on the dollar. But I learn that Buffalo assesses property at one-half its value. We should know the real value of the property of a city, and then the rate of taxation, in order to settle the burden on any community. Then there may be a State-tax, a city-tax, or there may be a permanent fund, and the revenues for the support of education may be derived from three or four sources.

I feel a great interest in this subject, and am very glad it has been brought before the department. After it has been fully discussed, I hope it will be referred to a committee with full powers, of which the Commissioner of Education shall be the chairman. I think we may then arrive at an agreement upon certain tables which shall be national, and can be filled up uniformly throughout the country.

Hon. Mr. BICKNELL. I think this subject one of the most important that can be brought before this body, and I am glad it meets us at the outset. The question was put to me by the governor of Rhode Island on the same point as that referred to by Mr. Wilson. The governor wished me to show him the exact cost, *per capita*, of education in Rhode Island. I immediately turned to General Eaton's reports and showed him the statement of the whole. I found various bases established by the several States. First, in regard to enrollment. In some States all are enrolled who are under 21 years of age; in some the school-age is from 6 to 21; in some from 5 to 15; and others 6 to 14. So that I found it impossible to determine anything in reference to the question of school-attendance on which to base a comparison.

Again, I found that some States show the number of pupils educated at school; in other States it is the average attendance throughout the year, or during four terms. The question as to the amount of educa-

tion in each is wholly undetermined. I could not tell, and I think no one of the superintendents here to-day can tell. Again, in regard to expenditures; what are the regular expenditures and what are the incidentals? So, as to the other points already referred to, they certainly should be unified, in order that all the facts may be brought to the same basis and that our judgment may be equal in reference to education in the different States.

I concur in the desire that General Eaton may be chairman of the committee, which I hope will be appointed, to report at another time.

Mr. WILLIAM R. CREEERY. It has been a question with me whether we could discuss this subject at the present time, a motion having been made to refer the whole subject to a committee. As the president, however, has already permitted some debate on the merits of the question, I will say that it was my pleasure two years ago to present a paper on this subject to the convention at St. Louis. Allusion has been made to what was done by western superintendents at that meeting and what has been done since. In my opinion, what they did amounts to nothing.

At that convention I took strong ground against statistics generally, and pronounced them worthless for purposes of comparison, as they simply deluded the unwary. I used some plain language on the subject, which created a little feeling among my brother-superintendents who prided themselves on their splendid exhibits, the effort seeming to be in many cases to present school-statistics in their best light, and not in the truest light.

I have had the question put to me as to the cost of education per pupil in the city of Baltimore. I have said in reply, "Upon what basis do you wish me to calculate the cost? Shall I include salaries, rents, ground-rents, books and stationery, incidentals, interest on cost of buildings? Or shall I omit some of these charges? I can calculate it just as you wish and make the cost per pupil all the way from \$10 to \$23 per annum. If I wish to make the cost per pupil small, I take a large divisor and a small dividend; that is, I take all the pupils who have been in during the year for a divisor, and only a part of the total cost for a dividend. The truth is, as things are now, the calculation of cost is a kind of sliding scale, to be used as superintendents find it necessary.

Superintendents are sometimes publicly attacked about the expenses of their schools. They must frequently defend themselves by using the statistics of other cities. How important is it, then, that these statistics should be made up in some generally known way. We should have a common language on statistics, that could be understood, on the mere reading, by any one of ordinary intelligence.

I found it stated in the report of a western city that in a certain school, for a period of six months, there had not been a single case of tardiness. I pronounced this marvelous. It was so to me. It almost surpasses human belief. I could not receive the statement as true.

With all the diversified conditions of the families from which children come who attend the public schools and taking tardiness as I understood it, I said that it was a most extraordinary statement, and I endeavored to show it. I learned from school-magazines that, in order to secure a full exemption from repeating cases of tardiness, principals were in the habit of putting clocks back ten minutes and locking the doors.

When we read of the percentage of attendance and tardiness, we want to understand what is meant and how the results are obtained. I believe that there is not a school in the United States that can secure 97 per cent. of the enrollment, for daily average attendance, on a period of one month. When such an assertion is made, I think the case is worked up, and that on examination it will be found there is some artifice by which it is done. No fair showing will give such a large percentage of attendance.

I am glad that my friend avoided the use of the phrase "the average number belonging." We hold that to belong is to be enrolled and to have an actual membership which cannot be changed every three days, at convenience. In making the percentage of attendance, we think it right to include all in the basis, not excepting the sick or those temporarily absent from cause. Suppose that fifty is the number of a certain class and five are absent from sickness, we estimate the attendance on the fifty, and not on the forty-five.

It seems to me that great good could be done if a scheme could be devised for a uniform method of calculating statistical matter. Perhaps superintendents of schools are as much prejudiced in regard to the ways in which they make calculations as other people are about their special knowledge of business. Let us, in a proper spirit on this subject, endeavor to devise the means by which there shall be a plain, fair, and intelligent statement of all our school-statistics.

The editor of a western educational journal, in a recent number, acknowledged the receipt of many annual reports of school-superintendents, but said that among them all there was not one properly and conveniently arranged. He could not tabulate them. Such has been the experience of all superintendents whenever they have tried to do the same thing.

The whole subject of school-statistics is in need of reformation. Under existing circumstances it is impossible to make intelligent replies to the many inquiries that are sent from city to city for information.

The inquiries from the Bureau of Education are so minute and comprehensive that, though we should like to reply to them all, we have found it impossible. The management of schools is different in different places. Some have a school-census and others have not. Some know the number of private schools in a city, with the number of pupils in them; others have no legal means of obtaining this information. The whole subject is incumbered with difficulties. We should at present en-

deavor to secure some common facts applicable to all public-school-systems, and make our comparison on such statistics. This will be an advance in the right direction.

Mr. ARIEL PARISH. Perhaps we shall not gain very much by a long discussion on the subject. We all understand the difficulties in attempting to get at a uniform plan of statistics. These difficulties have been presented here in the main at this time. It strikes me that, whatever committee shall be appointed, their main duty will be to aim at one thing to begin with: the number of children in the school; and, starting at that point, let them go forward to secure only that which can be made uniform throughout the country. If they can make but one thing that everybody can understand and report upon, let us have that one thing. If they can add a second and make it clear to every one, so that it can be understood and reported upon, let us have that. Let the committee that may be appointed aim to give us one thing or two things, and only go as far as they can make it a general thing, and not attempt to do any more.

The matter has been discussed so long, so many attempts have been made, that I have despaired of reaching anything satisfactory. We all know what the western men have attempted to do. Mr. Doty, of Detroit, some years ago and for a number of years, attempted to make a kind of uniform table, and sent his circulars all over the land, and we answered; and when we got the result we could make nothing better of the statistics than from our ordinary reports.

There is one thing in regard to this which will always be difficult, more difficult, perhaps, than anything else; and that is, to determine what is attendance. If a child is out on account of sickness, and takes his books and goes away by direction of the parent and then comes back in a week, what is the attendance of that child? There are many circumstances which go to create difficulty in getting at the actual attendance.

I only wish that the committee shall pass upon one, two, three, or more things that shall be clear, that everybody can understand, and then I think we can make a beginning. This thing cannot be accomplished in one year or two years; but we can make a beginning, and we can begin to put into the hands of General Eaton something that he can use. If we do not begin, we never shall do anything; but, if we begin and persevere, we can go on accomplishing one thing after another.

Hon. J. D. PHILBRICK. I listened with great satisfaction to the able paper presented by Superintendent Luckey. I like his idea of simplifying our statistics, including only those about which we can be certain. At the same time I think my friend from New Haven [Mr. Parish] has "hit the nail on the head," by suggesting that we take one thing at a time and see what can be done with it. I think our western friends, in St. Louis, Chicago, and Cincinnati, deserve great credit for what

they have done to improve city-statistics. I am sure these have been made very valuable.

The fundamental element which we want, I think, is the number of children who are due at school. What is the enumeration of the children who ought to go to school? There is great diversity in regard to the age at which this enumeration is taken, and I hope General Eaton, our admirable national Commissioner, will fix upon some age for the enumeration of the children, which shall be recommended as the proper age for education in the public schools of the different States. If we can begin by having the school-age the same in all the States, we shall have one element upon which we can begin our comparisons.

The next thing is the enrollment or the number belonging. We use that phrase, "the number belonging." My friend from Baltimore [Mr. Creery] does not seem to fancy that. I should be very happy to change that and adopt a different phrase, if we can all agree upon it. I find the word "enrollment" is used, but I do not understand what is meant by that.

Mr. PARISH. Is it not the same thing?

Mr. PHILBRICK. What is the question? I know what is meant by the number belonging, as we use it. We report the average number belonging for six months and the average number belonging for the year. We know exactly what it means. There is no cooking of the statistics, and I am surprised that it has been done anywhere. I supposed that all the reports from all the superintendents, from Baltimore and everywhere else, were honest. We mean by that phrase simply that, when a scholar comes to school, his name is placed on the record-book and that he is counted as one belonging to the school; and, if absent ten half days, he is not so considered. We adopted that practice in order to concur with suggestions from the West. Mr. Weld made some plans which were adopted by many cities, so as to be, in certain respects, uniform. It made not the slightest difference whether we counted ten half days or six half days.

Mr. A. P. MARBLE. In case a pupil is absent ten half days, are these half days counted among the absences?

Mr. PHILBRICK. Yes, sir. Now see how perfectly easy it is to obtain an average. You simply take the number "belonging," or that are "enrolled;" then, counting each day and averaging for a month or year, you will have the average number "belonging" or "enrolled."

Mr. GEORGE L. FARNHAM. Suppose a pupil has left and takes his books, do you count him as belonging?

Mr. PHILBRICK. Of course not. If we agree on that point, the rest will be easy. I learn that in the great State of New York there are some 225,000 pupils. I look at the attendance and I find it is about 90,000. The enumeration is made up for a certain purpose, to meet certain requirements in regard to the distribution of the educational fund. *But*, when you come to actual attendance, we know what that is. There

is no difficulty about actual attendance, because it is the actual presence of the child; and when I get that from any State I always feel that I am on *terra firma*.

I think there has been a great deal of progress in this matter, and especially since the organization of the Bureau of Education; and to that I look for improvement in the future. I think, if General Eaton will make a programme of what he wants, we can all gradually conform. [See Appendix A.]

MR. PARISH. I would suggest another point. Suppose a child is withdrawn from school, he should not be counted for ten or twelve days as still belonging. The difficulty is to know when he left. I will give an illustration. Take a case where a child is withdrawn by the parents from school; we must cut him off from the register; we will not count his absences any more. I am aware of a case where, in a large district, the scholars got into the habit of saying they had withdrawn whenever they were absent, and the teacher counted them as belonging only when they were present. The difficulty is to know what is real attendance and when we must stop counting the scholar as withdrawn from the school.

MR. R. W. STEVENSON. When pupils are absent five days they are, with us, considered as no longer belonging to the school; they are no longer members of that school. If a pupil is withdrawn by the parent, notwithstanding the teacher may give a withdrawal-card, we count the absence for five days. The reason is this: The parent may change his mind and the pupil come back to school in two days.

In regard to statistics in the West, I know that those who have the management of the schools there are endeavoring to do everything they can in an honest way. The reports that come from eastern cities we always read, and get a great deal of good from them; and, notwithstanding some things in connection with their statistics that we do not understand, we take it for granted that they are honest at any rate.

In regard to finding the cost per pupil, I think the proper basis is the amount paid for tuition and the number of pupils enumerated during the year. By tuition, I mean the amount for teachers' salaries. If incidentals are considered, there will be a great discrepancy. Some one suggests that you cannot tell how many children are enrolled in the city-schools. We can tell how many are enrolled in Columbus and we can find out for one term what is the cost *per capita*. We know just how much we have paid for the teaching force, including all connected with instruction—the superintendent and all. I would not include the superintendence of buildings. The matter of heating buildings and their care is so different in different places that the expense on that account will greatly vary. If we had these other things, we should have means of comparison that would be very valuable indeed.

In regard to the enumeration of children, the law of Ohio compels it to be made by those who are under oath to make a fair and honest

return of all children between the ages of 6 and 21. That is an item of our statistics upon which we can rely.

Mr. FARNHAM. I would like to say that there have been some points omitted in the suggestions that have been made. I would like to ask the gentleman from Ohio whether he would report every name registered, and make that number the basis of calculation of the cost *per capita* for the education of the children. For instance, having the aggregate paid for teachers' wages, would he divide that aggregate by the whole number registered to ascertain the cost *per capita*?

Mr. STEVENSON. Yes, sir.

Mr. FARNHAM. It seems to me there should be a limit to this: that, if a pupil is absent from school more than a week, he should not be counted for that time.

I think we should have some reference, too, to scholarship, or to the grade of the school, the scholarship being measured, as it usually is, by years of attendance. What are counted as primary schools in some places are not the same as those which are so called in Binghamton. It seems to me that, during a certain number of years of instruction, they should come under one head and for so many more years they should come under another head so that we may know pretty nearly what classes are included in the statistics presented.

Mr. STEVENSON. I would have three groups: the high school, grammar-school, and the primary. I would find the cost of instruction in the high school by dividing the whole cost by the number in that school; and so of the rest.

Mr. FARNHAM. But, to meet the point, we want to know what grades are entitled to these respective denominations, if they are to appear by those names in our statistics.

Mr. BICKNELL. That is a point to which I referred, that there must be a unity of basis for the whole country. We should first determine the number due at school, then ascertain the attendance, and then the average attendance.

Hon. J. P. WICKERSHAM. I am very much interested in the details in gathering statistics, as they are secured in different portions of the country; but it occurs to me that this is a national association and that it would be wiser for us to take a broader view of the subject. What we want is to know, not how they are gathered in this State or that, but whether we can bring about a uniformity in collecting them. First, we should understand what school-statistics we ought to gather—what we need, not in any particular State, but in the nation as a whole.

Then, we want to know how best to gather these statistics. I take it, the Bureau of Education will advise the State- and city-officers as to the statistics which should be gathered, and then we are ready to conform to that. And if the Commissioner, in addition, will tell us how to gather them, I think there will be an agreement. What we want is *uniformity*. We are not gathering the same statistics, nor in the same

way. I was pleased with the idea suggested as to the form in which these should be gathered.

Now, there are four things which occur to me as worthy of being considered in collecting these statistics: First, how many children there are to be educated in the different States and cities. We do not know that. I do not know how many there are between 6 and 21 in Pennsylvania. I do not know, even though the census-marshals took the census in regard to it, because I have ascertained that that census is wholly unreliable as to the statistics, and I want to say that in Washington. I say that in our State, so far as the census-marshals gathered the school-statistics, they are wholly unreliable. We want something better than that. They may have done better in other States. There is scarcely an approximation to the truth with us; they were a guess. In one particular town, the schools happened to have their vacation when the marshals visited it, and they reported the children as out of school. That is a specimen of the manner in which the thing was done.

We want to know, by some reliable means: First, how many children there are; secondly, how many are enrolled in the schools; thirdly, the attendance. We want to ascertain these things uniformly, and I hope the Commissioner of Education may promulgate some form that we may adopt in every State and city, and that we may have uniform statistics. I do not care how they are gathered, whether in one way or another; but they should all be gathered in the same way, so that we may tell one story in all the States, and that a truthful story.

Hon. M. B. HOPKINS. I cannot see how it is practicable to get uniformity in this enumeration in the way suggested. I cannot see how any recommendation from the Commissioner of Education here or any blank forms sent out to the different States will elicit the desired information unless the laws on the subject are uniform. In Indiana we have a law requiring an enumeration to be taken every year of all the children between 6 and 21 years of age; and we test that law every year. The results are decidedly satisfactory. I have no doubt that we have the matter as nearly right as we can get it.

This enumeration is taken by the township-trustees, and the regular increase from year to year shows that it must be about correct.

In other States it is different; you send out blanks to all, and they will return such information as they get under the law. But it will not be uniform. For this reason, you cannot bring about uniformity in the States; for without the same laws you cannot reach the case. There is a difference between operating under law and simply making a request. A State- or city-board may issue blanks, asking for information as to the number of children between 5 and 15 and between 15 and 21. We have no authority to demand that; it is a request simply. Some will respond and some will not; and hence the information is in a great degree unreliable. Some will not report at all: they are not sworn to do it; they have no compensation for it. It seems to me the way to reach the



number to be educated is by having some uniform law. This, I suppose, will have to be brought about by individual action in the States. Perhaps it may come within the province of this committee to recommend some kind of uniformity.

Mr. WICKERSHAM. I think it can be brought about in this way: If the Commissioner of Education shall recommend the adoption of the Indiana law as the best, I think it will not be difficult to secure such legislation; I know it will not be in my State. I think the executive officers can secure its adoption. If the law in Ohio is better than that of Indiana, we can have that. What we want is concert of action and to know what is best to be done.

General EATON. I dislike to take the time of the convention, and yet the point before us is so vital that I cannot refrain from saying a few words. The ideas of those present here have been stated in different forms. We have got a thing to do; we want to know what that is. We must know the number of children that are to be educated; for it is their education that we, as educators, are trying to accomplish. Now, we do not know that, and yet we are coming towards it with a certainty which is very encouraging, in spite of all the difficulties thrown in our way. I look over the results that come into our office year by year with amazement at their improvement and progress. I am amazed at the growth of the educational men in this country in this particular, and it is exceedingly gratifying to me to know that we educators stand with our eyes open in respect to this vital point and with our hearts fully devoted to the work of making it right. For, as I look around the world, I see that the different forms of statesmanship are all coming back and crystalizing upon the basis of statistics; and that, if there is any change going on to-day in the manner of conducting affairs of state, it is in the direction of statistical accuracy in all details. This indicates to me, not only the interest that educators are taking in the affairs of the world, but also the influence they are exerting; and, if you are able to agree to some extent in the essentials of these statistics, you are to do a most important thing.

I do not believe that it is possible to obtain, and I feel more and more certain that it is not desirable to try to obtain, this uniformity in details; but I feel also more and more the absolute necessity of uniformity in certain particulars. Now, one State can go as far down as it chooses in reckoning its children as subject to education for its own purposes and just as high as it chooses; but, when it wishes to bring itself into comparison with other States, there must be a uniform figure. If you choose to have no limit for local purposes, very well; but, if you will designate the age, as 5 or 6, as the limit in one direction, and make the limit in the other direction 15 or 16, let those limits be uniform in all the States, and you will have a basis of comparison. I can make these comparisons with our State- and city-schools, however, better than with those of foreign countries. A little matter came to me the other day which gave me

a lively sense of the difficulty. A writer in the London Times, advocating the feasibility of free education, came back on me, using our statistics in this country as an argument against the efficiency of American education in comparison with English, when there is no uniform basis on which the progress made in the two countries may be compared.

If you look at the fact that we allow the school-age to run up to 21 and down to 3 or 4, and reflect that in Europe they do not usually allow the limit to go below 6 or above 14, you can see the injustice of the comparison made. And when you reflect that those countries cannot have any free education in distinction from rate-bill-education, you will see that it is exceedingly desirable to reach the result which we are endeavoring to accomplish here, of not only having a truly free education, but an exhibition of it in statistics uniform throughout the States.

The labor in this direction cannot be described; and yet, with all these difficulties, you are so anxious, and other educational officers are so anxious, to make some accurate tally and know where we are, and whether going forward or backward in intelligence and virtue, that I think you will be pleased to be assured of what we see at our Bureau, viz: a steady improvement in our educational systems and in the fullness of our tabulation of results.

I must mention one single instance. I remember the first time we tried to get the statistics of the cities, and sent out circulars, we were able to compare only some fourteen or fifteen cities, whereas now we can tally with considerable accuracy about three hundred and fifty. I do not know that there is a better indication of progress in any direction than this presents.

Let me say a word about accuracy in these things. Of course we feel badly if we detect mistakes, but there is some satisfaction in knowing that we are not the only persons who may be mistaken. I was present at a very scientific discussion, conducted by very learned men upon the heights of our mountains. If any teacher should find in his school pupils in geography who could not tell the exact height of our principal mountains, he would mark that as a failure; but I found these learned men could not tell within a distance of several hundred feet. I went back to my office quite reconciled to the idea of occasional failures there, for I thought that if these gentlemen make such mistakes and failures in material science, what may we not excuse in matters of educational and social science.

Another instance: In reading an English work on navigation, it occurred to me to observe whether these gentlemen were satisfied about the latitude and longitude of different places; so I turned to Cambridge, and I found that, after making a series of modifying statements, this author was willing to admit that, when many observations had been tested for a series of years, the latitude and longitude of Cambridge might be put down with a good deal of certainty as so and so. I con-

cluded that, with the present progress in educational statistics, we may hope to attain sufficient accuracy for all practical purposes.

Mr. PHILBRICK expressed the hope that some definite periods for enumeration might be agreed upon, that a minimum and a maximum of age might be fixed. He thought 18 should be the maximum, as that is about the fair period for the termination of secondary education, so far as the public schools are concerned. There might be some reason for taking the limit of the termination of elementary education. He would begin at 5, inasmuch as some public provision should be made for the education of children under 6 years of age, and to end at 15.

Mr. PHILBRICK then moved that the enumeration of children, as due at school, be considered as beginning at 5 and ending at 15.

Mr. BICKNELL was satisfied with that, as it is at present the period of school-age fixed upon in Rhode Island; but he would move a reference of the question to the committee on statistics. Agreed to.

General EATON, from the committee on business, during the debate made the following report:

The committee recommend—

(1) The appointment of a general committee on the Centennial, to co-operate with the Commissioner of Education in devising practical plans for a representation of the educational progress of the country at Philadelphia in 1876, said committee to consist of the executive school-officers of the several States and Territories.

(2) A committee of five on statistical forms.

(3) A committee on resolutions.

(4) A committee on national aid to education.

He also presented the following programme for Friday:

At 9.30 o'clock a. m. a meeting will be held for preliminary business.

At 10 o'clock the committee on the Centennial will report.

At 11 o'clock the reception of the President of the United States, Secretary of the Interior, and the governor of the District of Columbia; which will be followed by the reading of a paper on city-education, by Prof. Philbrick, the report of the committee on national aid to education, and the report of the committee on statistical form.

A recommendation that a committee of five be appointed to consider the relation of the General Government to education in the District was added, and the report was adopted.

Mr. CREEBY moved that when they adjourn they adjourn to this evening at 7.30 o'clock. Agreed to.

The Chair then announced the following standing committees:

On statistical form: Messrs. Harvey, Ohio; Creery, Baltimore; Philbrick, Boston; Northrop, Connecticut; Atkinson, Virginia.

Resolutions: Messrs. Wickersham, Pennsylvania; Wilson, Washington; Beede, New Hampshire; Byrne, West Virginia; and Parish, New Haven.

Aid to education : Messrs. Ruffner, Virginia ; Bicknell, Rhode Island ; Hopkins, Indiana ; Newell, Maryland ; and Jillson, South Carolina.

Centennial : General Eaton, Hons. T. W. Harvey, E. W. Byrne, J. P. Wickersham, D. E. Beede, B. G. Northrop, J. K. Jillson, M. B. Hopkins, M. A. Newell, T. B. Bicknell, and the chief executive school-officer of each State.

On the relation of the National Government to education in the District of Columbia : Messrs. Wickersham, Ruffner, Philbrick, Hopkins, and Harvey.

The department then took a recess until 7.30 o'clock p. m.

#### EVENING-SESSION.

The department re-assembled at 7½ o'clock, and was called to order by the president, who introduced, as the lecturer of the evening Hon. A. D. White, president of Cornell University.

#### ADDRESS OF PRESIDENT WHITE.

MR. CHAIRMAN AND GENTLEMEN OF THE ASSOCIATION : I shall take the liberty, with the consent of leading gentlemen of the association, to modify somewhat the subject of my address. I shall speak upon "Scientific and industrial education, and the true policy of the National and State Governments in regard to it."

#### RISE OF SCIENTIFIC SCHOOLS.

Within the last thirty years, and mainly within the last twenty years, there has grown up in our country a great system of scientific and industrial education. It is no mushroom-growth ; it is a culmination of the longings, the thoughts, the plans, and the work of many generations.

I might speak of the beginning, made over two hundred years ago in England, by that great industrial genius, the Marquis of Worcester, who, in advance of his time, advocated a system of industrial education which received only scoffs and abuse ; I might speak of the first great success in introducing industrial education in France, a hundred years ago, by De Liancourt, which laid the foundation of French supremacy in so many branches of industry ; I might speak of the efforts in Germany and Switzerland to make a beginning in this important system, which has enabled these countries to take a leading part in the industrial warfare of this century ; but I shall come to a period, about twenty-five years ago, when Mr. Lawrence, of Massachusetts, a thoughtful manufacturer, gave the beginning of an endowment for an institution in which applied science should be taught, at Cambridge, in Massachusetts. Not that this was the first effort of the kind. Eaton, at Troy, had done a noble work ; and others had done similar work in various institutions throughout the country, to some extent. But still, then and there was the first attempt, in this country, in connection with a great university-corporation, to establish scientific and industrial education.

About five years later, in connection with Yale College, Mr. Sheffield established the Sheffield Scientific School for the same purpose, that of instruction in applied science.

#### DRAWBACKS.

Still, there was one drawback, and that a very serious one. In neither of these institutions, noble as they were, was the scientific student considered as the equal of the student in literature, and especially in classical literature. He was educated in a different building, under different professors, was graduated from a different commencement-stage, and was not enrolled in the catalogue as of the class of any given year. Ask

any graduate of Harvard or Yale for the names of his classmates, and he will never mention the name of any scientific student. I am far from imputing this to Yale as an unpardonable sin; I love my *alma mater* too well for that. Still, from that day to this, the student in science, and especially applied science, has not been considered the equal of the student in classical literature.

#### SCIENTIFIC AND CLASSICAL INSTRUCTION MADE EQUAL.

The next great step was taken at the University of Michigan, when the student in science was made the equal of the student in literature. He studied in the same room, on the same benches, before the the same professors, with the classical student, so far as his studies were the same; graduated from the same stage with a degree of equal value; and the classical and scientific students were alike enrolled upon the lists of the college-catalogue.

Still, industrial education in the United States was poor and feeble. Other nations had gone on doing great things. France had put into her Museum for the School of Arts and Trades, in Paris, models illustrative of machines, to the amount of nearly half a million dollars. Germany had been rivaling France. Switzerland had laid noble foundations, and even England was working steadily towards her great Industrial School at South Kensington, to which she has now given millions.

At the beginning of our civil war an effort was made in the Congress of the United States and a bill was proposed, which had for its object the endowment, by means of a grant of land, of various institutions for general, scientific, and industrial education throughout the country. It was passed, but vetoed by the President, Mr. Buchanan. Again it was taken up, and this time it had as its champion a real statesman. I am glad to name him here, and he stood then, as he stands now, in the Senate of the United States. Then, as in more recent struggles, Justin S. Morrill, of Vermont, was the champion. In spite of all the do-nothings, sham economists, optimists, pessimists, he led the forces in favor of true scientific and industrial education. At last he conquered, and the bill was signed by President Lincoln.

#### ACTION OF THE STATES.

I pass now to the reception of the benefits of the act by the various States.

Under the law land-scrip was given the different States, based upon the representation of each State in Congress, scrip for thirty thousand acres being issued for each Representative and Senator. You will note here, in passing, one more provision showing thoughtful statesmanship. It was provided that, except in the case of States having public lands within their own borders, no State should "locate" the scrip. The great majority of the States could not, therefore, obtain land. They could only take the scrip and sell it at market-prices. An individual might buy the scrip and locate it; a State could not. Thus was prevented any troublesome *imperium in imperio*, such as would have been created, for example, had the State of New York been allowed to acquire a million of acres in the heart of the State of Wisconsin.

The various States accepted the scrip, and in almost all cases sold it at low prices the market being glutted; and with the proceeds each established its institution under the act, as its interests demanded or as the money realized permitted.

#### DIFFERENCES OF SYSTEM.

Note now another important fact. Some States—as Connecticut, Rhode Island, and New Jersey, where the fund was too small to establish a separate institution—gave it for the endowment of scientific and industrial education in an existing institution. Connecticut gave her share to Yale, Rhode Island gave hers to Brown, New Jersey gave hers to Rutgers.

States which received a larger share, but still not enough to carry out the act in all its parts, gave theirs to purely agricultural colleges. Of these were Michigan and

Iowa. Others with a larger share divided theirs between an institution for agricultural and an institution for technical instruction. Of these were Massachusetts and Missouri. A few which received the largest share determined to carry out the act in its whole scope by founding a single institution in which industrial and scientific education should be united to general instruction and culture. Of these were Illinois and New York.

It may appear to some that this difference in modes of carrying out the act in the different States was a misfortune. Far from it. I am prepared to maintain, against all comers, that, of all the good fortune which has attended the carrying out of the act of 1862, this variety of plans and methods in the various States was the best.

Look at it for a moment. Of all men none has stamped more ideas into the thinking of this generation than has John Stuart Mill; but among all his thoughts regarding education I remember none more pregnant and original than one regarding systems of public education. It is that, with all its benefits, such a system has one great danger, and that is: its tendency to shape all minds by the same course of education into the same mold, thus preventing the fruitful collision and friction of mind with mind, thus bringing on a stagnant, barren sort of Chinese routine in thought.

Happily for us, by leaving these funds to each State for management, this evil has been avoided. And not only this, but almost every one of these institutions has found out something of use to every other. There is, indeed, unity between all, but not uniformity; and here let me say that, having made it my business to look closely into the methods of all these institutions and to visit and personally inspect many in order to bring home what might be good for our own use, I can bear testimony that never have funds been more carefully applied and made to do more in furthering this great purpose.

I know every one of these institutions, and I know not one which is not making a noble return on all it has received.

So much for the main features of the struggle towards the establishment of what has been called the "new education."

But what is this "new education?" I ask you to look first at its special purpose and finally at its general scope. And, first among the special departments grouping themselves under such a system, I name

#### THE COLLEGE OF AGRICULTURE.

And here let me refer to a misapprehension, which should be corrected at the outset. For a typical example of this, I take up a paper read at the recent educational convention at Elmira, by the Rev. Dr. McCosh, president of Princeton College. In that paper, the whole national and State-policy regarding scientific and industrial education was condemned. The decisions arrived at by two different Congresses of the United States and by nearly thirty State-legislatures, the plans adopted by nearly thirty boards of trustees and faculties in the various States—many of them after careful study of institutions at home and abroad—were dismissed with contempt. The main argument was so far as argument can be detected among the multitude of assertions, that Scotland, from which the doctor had not long before emigrated, had got along well enough without any provision for agricultural instruction.

Never was there a more admirable illustration of the thoughts put forth by James Russell Lowell, on "a certain condescension in foreigners." To two institutions the doctor paid his respects by name, one being Rutgers College, in New Jersey; the other, Cornell University. The first of these, Rutgers College, it would appear, had committed an unpardonable sin. While the doctor's learned predecessors at Princeton had been preaching against "science falsely so called," the Rutgers College authorities had received that portion of the college-land-grant-fund which came to New Jersey and had established an admirable school for applied science.

His reference to the Cornell University was of another character, and not all my respect for the doctor's ability as a metaphysician will allow me here to suppress the

fact that his whole argument was based upon one of the most astounding misrepresentations ever attempted upon an American audience.

This misrepresentation was in regard to the law of Congress of 1862. Throughout the doctor's address the idea is conveyed that the law of 1862 contemplated solely the establishment of exclusively agricultural colleges.

Nothing could be more wide of the fact. Had the doctor ever read that law, he would have seen that, while "subjects relating to agriculture and the mechanic arts" were named as "leading branches," it was expressly declared in the act that other scientific and classical branches should not be excluded. Nay, more, he would have seen that so broad was the intention of Congress that the wording of the act is that "subjects *relating* to agriculture and the mechanic arts" shall be taught, thus giving the authorities permission to extend their teaching into every field of learning which could strengthen these departments or elevate them.

I am aware that, in opposition to the plain intent of the act of 1862, the doctor may fall back upon its title, in which, for the sake of brevity, only the leading objects of the colleges are mentioned; but, had he read even so accessible an exposition of law as Kent's Commentaries, he would have found that every act is to be construed by its contents, and not by its title.

But the doctor was especially hilarious over the small number of graduates from our agricultural colleges.

Let us look at this. The number is at present very small, but I presume that no thoughtful man expected that at so early a period after their establishment the number would be very large, nor, indeed, do I expect that for some years the number will greatly increase. In a new country like ours, those professions which present the most brilliant returns will be sought for first. Hence we find that, when a farmer decides to educate his son, it is not generally with the idea of making him a farmer. And even when he does bring him up as a farmer, he has great doubts as to the value of any instruction for that purpose outside of the old farm-routine.

But while I allow freely that this is the case now, I can state quite as confidently that this condition of things cannot continue for many years. There are those now living among us who will stand among a hundred millions of citizens within the boundaries of our Republic. When that day comes—nay, long before—this present condition of things must change. The present system of routine-cultivation—this present system of "skinning" lands and then running away to soils more fruitful, in the intention of robbing and running away from them in turn—cannot last. Men must get a subsistence on less and less land; and they can only get it by bringing to bear upon it better and better cultivation. How soon we shall come to the division of property, as in the Scotch Lothians or the Belgian Pays de Waes, with their small farms, exquisitely tilled and supporting well a body of thrifty men, I cannot say; but the steady approximation to it is as inevitable as fate. And at the same time that this goes on, the professions hitherto known as learned will be more and more thoroughly filled. We see the beginnings of this now. Already is it becoming less and less easy for the farmer's boy to be sure that the little dark office in the great city-block, swarming with lawyers, is, after all, so much more promising than the open fields and the work of the farmer.

But it is said that scientific and industrial education does not better agriculture. Does it rot? Of all assertions this is the most fearful indictment against the most extended field of human thought and work. If this be true, then is agriculture the only industrial pursuit unworthy of a human being; for this assertion would not be made against any other branch of human industry. But it is not true. The whole history of agriculture shows exactly the reverse of this. Look at those wonderful Tables in Comparative Sociology, by Herbert Spencer, just issued, and study there the progress of agriculture and other industries from their rudest beginnings, and you see that skill in observation and reasoning on observation have been steadily improving agriculture at the same time that they have improved other industries.

But grant that the number of students devoted wholly to agriculture is small; it is not these alone whose education tells upon agriculture. Even a partial course in it has great value. It was the remark of a very distinguished statesman that the main thing in agricultural education was to do something to make agricultural pursuits attractive. His view was that, whereas in England every man longs to obtain a competency to enable him to retire from the city, here men seek to escape from the country to the city; and that we should attempt to bring about a change of this sentiment in our educated young men. The author of that remark is Horatio Seymour. It struck me powerfully as sound and just; and shortly after the establishment of the Cornell University, the trustees adopted a rule by which every student in every department, as a condition for graduation, must hear a course of lectures on general agriculture. I am glad to state that, although the rule was received with some grumbling at first, that grumbling stopped immediately after the first lecture. Said a student to me at that time: "These lectures make us all wish to get hoes, and go at scratching up the ground at once."

But suppose that no young men came forward to take agricultural studies, the new education would still tell powerfully on agriculture. Think you that we can send out year after year—as we did last year—a hundred graduates from all our various departments, whose powers of observation have been trained and whose real knowledge of subjects bearing on agriculture has been extended by close study in botany, animal physiology, geology, and chemistry, without its telling ultimately on the progress of agriculture?

#### VALUE OF AGRICULTURAL RESEARCH.

But suppose that not one student was even thus educated, I maintain that the State and nation would receive more than the equivalent of its endowment.

Look at a few figures. The last census gives certain agricultural statistics whose magnitude is almost oppressive. The value of farm-productions in the United States in the year 1870 was considerably over two thousand millions of dollars. The value of farm-productions in the State of New York the same year was over two hundred and fifty millions of dollars.

Does not common sense tell us that we can well afford to make a little outlay to promote any sciences which may help such a vast interest? If, in the course of years, in all these laboratories and experiments, some one useful idea should be struck out, it would pay our endowments a thousandfold.

Says Emerson, "the true poet is an inspired prophet." Did you ever think what an inspiration lies in the poet's declaration that "the greatest benefactor of mankind is he who makes two blades of grass grow where one grew before?" If not, look at the census-returns showing the enormous value of the hay-crop of the Northern States.

Knowledge of nature—coming by research and observation in the laboratory and the field—these are to give us finally our "two blades of grass" and multitudes of other benefactions to our race not less precious.

The Sheffield Scientific School at Yale College has not a single student in agriculture; but Profs. Brewer and Johnson, by their experiments on fertilizers and kindred subjects, have returned the value of their endowment to the nation a hundredfold already.

#### THE DAIRY.

Take another item. The dairy-products of New York in 1870 were over one hundred million pounds of butter and over twenty million pounds of cheese. Now, there has been quietly at work in our laboratory of agricultural chemistry, at Cornell University, a young professor, Mr. George C. Caldwell. He has made little noise in the world. While Dr. McCosh was striking the stars with his lofty head and his voice was shaking the agricultural colleges, this young man worked quietly on upon the chemistry of the dairy. Said Mr. L. B. Arnold, an authority invariably recognized among dairymen: "Prof. Caldwell's researches on the chemistry of the dairy are



worth more to the State than your whole endowment. He has taught us to do such things in dairy-matters as to increase dairy-products as we never dreamed of doing." And to this substantially Mr. Arnold has lately sworn before the commission of investigation.

#### ORCHARD- AND GARDEN-PRODUCTS.

Take a few figures more from the same census. In 1870 the market-garden- and orchard-products of the State of New York amounted in value to close upon twelve millions of dollars.

Can any one, then, gainsay the wisdom of our employing, as we do, a young naturalist of genius to devote his whole time to investigations regarding insects injurious to vegetation and to giving lectures based upon these researches?

#### FARM-IMPLEMENTS.

Take still other figures. The same census shows the value of farm-implements in the State of New York to be over forty-five millions of dollars. In view of this we have investigations and lectures upon mechanics related to agriculture and have obtained models and implements at home and abroad to illustrate this subject. Is not the mere pittance this requires well laid out?

#### THE VETERINARY COLLEGE.

I remember some years since seeing a paragraph going the rounds of the papers stating that President White had sent from Europe to Cornell University an Oxford professor and a horse-doctor. The charge was true. The Oxford professor was Goldwin Smith; the "horse-doctor" was Prof. James Law, formerly of the Royal Veterinary College at London. Each one of these men, in his way, has been a blessing to the university and to the country. But look at a few more figures from the census. The number of horses in the State of New York is over 800,000; the number of neat-cattle exceeds two millions. Prof. Law's lecture-room is one of the most attractive places I know. Animal physiology is a study worthy of any man; but, even if he never taught a student, in view of this vast interest, is it not well worth while to provide such a man to investigate regarding it?

Visit the Industrial University of Illinois, and you see experiments going on in the matter of forest-culture suited to the prairies and in other matters of importance to the great West. Go to the Agricultural College of Massachusetts, and you see many other valuable experiments, a most valuable series relating to the making of the best sugar. Go to any one of these colleges fairly in operation, and you find it trying some experiment valuable to its part of the country.

#### FARM-EXPERIMENTS.

Take another branch of the subject. As to our efforts at Cornell, we have been fitting up an establishment for experiments in the best rotation of crops and in the feeding of cattle. A careful resident professor has been called to carry on these, and I trust that Mr. E. W. Stewart may be called to superintend them.

Some time since, in view of this matter, I visited certain cattle-feeding establishments with a gentleman whose sound sense on such matters is widely recognized—Hon. George Geddes. Said he: "This experiment fairly tried will be worth to the State of New York more than your whole endowment. No matter which way it turns out; no matter whether 'soiling' is found profitable or unprofitable; to try this matter fully, and fairly, and scientifically, will be worth more than your endowment."

#### AGRICULTURAL AND OTHER INDUSTRIES.

But it may be said, why not devote all your resources to agricultural experiments and instruction? I answer, first, because the law of the United States does not allow

it; secondly, because, in the interest of agriculture itself, we should educate men to develop other industries. What is the great want of the Western States at this moment? Greater agricultural production? No. What they want is the development of great and varied manufacturing-industries so near them that it shall no longer take two-thirds of a bushel of corn to carry the other third from producer to consumer.

#### COLLEGE OF MECHANIC ARTS.

The act of 1862 also provides with special care for instruction in "branches relating to the mechanic arts."

If you doubt the wisdom of this, look again at the last census. There you find the manufactures of the United States valued at four thousand millions of dollars, and over two millions of persons engaged in them. Can education be made useful to this vast interest? Other nations think so and are laying out vast sums in this direction.

What is the system? Young men come wishing to make themselves first-class mechanical engineers or master mechanics, or to perfect themselves in any branch of mechanical industry. Under careful instructors, they are carried through the various sciences bearing on their profession. They are taught mathematics in all their relations to mechanics; in one room they go on with the mathematical and mechanical drawing of machinery; in another with free-hand-drawing; in the laboratory they are taken through various processes bearing upon their profession. A certain number of hours every day they must give to the workshop, and there, in well-worn apron and rolled-up sleeves, they go on, under careful supervision, from the use of the simplest machinery and the plainest work to the most complicated. This is the plan in actual operation at the institution with which I am connected, as well as at the Industrial University of Illinois and elsewhere.

The purpose is to send out every year a body of young men with not merely a very high grade of theoretical instruction, but with most thorough practical instruction—men who cannot merely calculate the size of parts of a machine, but who can draw it after they have calculated it and make it after they have drawn it. These are the men whom our country sorely needs to complete the organization of its great army of industry. Indeed, I know of no more pressing national need in this country. Our land has more mechanical ingenuity in it than any other; but did you ever think of its wretched misdirection and waste, for want of industrial education? If not, stroll through the national Patent-Office. Look at a few facts. In one of our most important cities are engines for supplying that city with water, erected at vast expense. The whole amount was wasted. There is ingenuity in that vast machine, there is skill in it; but, for want of education regarding certain principles involved, the whole thing is failure and waste.

Take another case. A few years since, with a small party of our fellow-citizens, I visited the West Indies in a national ship. She was a noble vessel and her engines had cost, it is said, nearly eight hundred thousand dollars. The engines showed ingenuity; but they were so deficient in proper elements of construction that our voyage was prolonged until we were all given up as lost and had the honor to have our obituaries in the leading newspapers. The first voyage of those engines was the last. They were sold for old iron, and the sum lost on them alone was sufficient to endow the finest institution for mechanical engineering in the world.

I might multiply examples of this sort, but this is enough to show what need exists for more careful training in that direction, and I pass to a kindred department.

#### CIVIL ENGINEERING.

Take one among the fields of its activity. We have in the United States about seventy thousand miles of railway, and every year thousands of miles are added. I do not at all exaggerate when I say that millions on millions of dollars are lost every year by the employment of half-educated engineers. Proofs of this meet you on every side.

Lines in wrong positions, bad grades and curves, tunnels cut and bridges built which might be avoided. All of us know the story.

But this is not all. Hardly a community which has not some story to tell of great losses entailed by bad engineering in other directions. Here, it is the traffic of a great city-street interrupted for a year because no engineer can be found able to make the calculations for a "skew-arch" bridge, a thing which any graduate of a well-equipped department of engineering can do; there, it is a city subjected to enormous loss by the failure of its water-supply-system because the engineer employed made no calculation for the friction of water in the pipes; in another instance it is a whole district sickened by miasma because a half-taught engineer was intrusted with its drainage. We must prepare men for better work; and for every dollar thus laid out we shall create or save thousands.

#### SANITARY ENGINEERING.

Nay, we shall save lives as well as money. Mr. Baldwin Latham, in his recent book on Sanitary Engineering, and Dr. Beale, in his work on Disease Germs, show by statistics that a proper application of engineering to sewerage would save one hundred thousand lives yearly in Great Britain alone, and the same truth holds in this country. We must train men in engineering as it relates to the sanitary improvement of our great communities.

#### ARCHITECTURE.

Wealth and public spirit—individual and municipal—are now erecting myriads of noble buildings in all parts of our country. The number of uneducated architects is very great, the number of thoroughly-prepared architects is very small. Have you ever considered the waste attendant upon this? Every month you hear of some architectural failure that costs life and treasure. To-day it is a church-floor which gives way, and a multitude of children are taken from the ruins mangled and dead; to-morrow it is a whole city-quarter swept away by fire, because some half-taught architects knew no other way of producing architectural effect than by piling up combustible ornaments on inaccessible roofs.

Nor is that all. Our people are laying out millions on millions in buildings which, within thirty years—in the advance of taste and knowledge—will be eye-sores, and must come down. A building erected by a true architect will grow more beautiful for hundreds of years. A building erected by a sham architect will be an incubus in a quarter of a century. People are beginning to see this, and we are endeavoring to prepare men thoroughly to know the best materials, to calculate their strength in construction, and to combine material and construction according to everlasting laws, and not according to some pretty present fashion; and this is the purpose of our school of architecture.

#### MINING-ENGINEERING.

Few among us dream of the monstrous waste now entailed upon this country by imperfect instruction in mining-engineering and metallurgy. Take first the losses by fraud. A few years since our people were asked to invest in a Nevada mine of great richness. Half-educated mining geologists had certified to its value. But certain capitalists sent a young man, carefully educated in a scientific school, to examine and report. The young man on arriving found that the mine looked well enough, but on applying more scientific tests he found that an old worthless mine had been taken; that rich sulphurets had been brought and carefully placed in it at a cost of probably a hundred thousand dollars. His report exploded the fraud, and nearly a million of dollars was saved—more than five times the sum that this scientific school received from the Government of the United States. This same gentleman also exploded a great diamond-mine-fraud of the same sort.

Let me give just one more example. A short time since Prof. Verrill, of New Haven, stepped into a bank, where he noticed a lump of iron-ore. He asked the cashier in regard to it and was told that it was iron-ore from northern New York; that they

thought they had a pretty good thing in it; that they were about to invest in it to the amount of nearly half a million. Said Prof. Verrill, "Before you do that, I think you had better have the mine examined." They inquired what necessity there was for an examination. He said so much that they sent a young graduate of the Sheffield Scientific School to look into it. He was there two weeks, and the examination cost \$200. He reported that the presence of titanium rendered it utterly worthless for their purpose. In that examination he saved an amount equal to the entire endowment of the institution. Here, too, we see the use of careful training.

#### CHEMISTRY APPLIED TO MANUFACTURES.

More and more the chemical laboratory is becoming a great central point in industrial education. Run over but two or three points out of many. A chemical discovery in coloring matter has given us a substitute for madder and restored the great area given to cultivation of that material to the increase of material for human sustenance. An apparently trivial application of another chemical principle has enabled Onondaga to purify its product so that it now competes with the world in the purity of its salt for the dairy. Another application has enabled another part of the State to make quantities of steel formerly undreamed of. And all this is but the beginning of the applications of chemistry to increase the well-being of the State and nation.

#### THE ARTS OF DESIGN.

The average visitor to an institution like that established in the State of New York will often say something like this: "I can understand the value of your libraries, collections in natural history, apparatus, models, shops, and lecture-rooms; but what use of your great draughting-rooms?"

If you answer that drawing is taught in one for civil engineers; in another for mechanical engineers; in another for architects; in another free-hand-drawing; for all these together he will say, "Why teach free-hand-drawing at all? That is rather artistic than industrial."

Is it? Look at a few recent facts. A few years since the State of Massachusetts passed a law requiring free-hand-drawing to be provided for in the public-school-system throughout the State. The city of Boston did the same. State and city combined to call from the great English School for Industrial Art at South Kensington Mr. Walter Smith, at a salary of \$5,000, to direct the schools of that city and State.

Mr. Smith has worked on, and the result is that already this instruction has been admirably developed. Now, why has this been done? Has the State of Massachusetts, which we have always known as so thoughtful in its legislation and education, really fallen into mere diletanteism? Not at all. Look at a few more figures from the census.

In 1870 the product of Massachusetts in printed cottons was over seventeen millions of dollars and her product of other goods into which the arts of design enter as a matter of first importance was doubtless even more. Massachusetts is thoughtful, as ever. She sees that other States are overtaking her in manufactures so far as quantity and quality of material are concerned, but she determines to distance them by spreading throughout her borders knowledge of the principles of beauty in design and skill in them. And she never did a wiser thing. It will tell on a multitude of industries. Why do we import such vast quantities of English, German, and Danish glassware and pottery? Because they are better in material than ours? No; but because they have a beauty in design which leads the most illiterate to choose them. Why do we import such quantities of silks and carpets and chintzes and wall-papers from France? The Chenays make silks as good in quality on this side of the ocean as the Compagnie Lyonnaise make on the other; the Bigelows make carpets just as good in material here as the D'Anbusson factory makes there; and yet when our wives and daughters see these foreign fabrics, they immediately prefer them. Why? Simply because there

generally are in the foreign product a skill, a beauty, a taste in design, that appeal to that sense of beauty which God has implanted in the rudest of our race.

Other nations in this warfare of industry see this. England is devoting millions to art-education, in order to keep up her manufactures, and has established in the privy council a science and art-section to direct this expenditure wisely; Germany is doing even more; France has been doing it for generations, and it has given her the supremacy thus far in a multitude of branches of manufacture.

If you wish to see how these nations have done and are doing this, look at Mr. Stetson's admirable little book on Technical Education. You will there see that Prussia alone gives industrial education in various branches to over 11,000 men.

Already the value of this is known to individuals among us. Mr. Stebbins tells us that one silverware-establishment in the city of New York pays a graduate of one of these foreign schools for making designs and patterns as high a salary as the Empire State gives its governor.

#### GENERAL INSTRUCTION.

And now a few words regarding the general education which goes with these various branches of industrial and scientific education. The old way in the more venerable colleges and universities was to force all students through one single classical course—the same for all. This system the “new education” discards. General courses in literature, science, and arts are presented, as well as special courses having reference to the great industries, and the student, with the advice of friends and instructors, takes that which best suits the bent of his mind. We believe that the results are already better than those of the old system. Certainly they could not be worse. The famous Blue-Book of the parliamentary commission on advanced education in England shows that, under the old system there, 70 per cent. of the students in their great schools and universities take no real hold upon classical studies. Few will claim that our system of classical instruction is better than that in England. We make no opposition to classical instruction. We agree that, for those who take earnest hold of it, it is one of the noblest means of discipline and culture; but it is no less evident that, for those who do not take hold of it, who merely “drone” over it, it is one of the worst.

#### INSTRUCTION IN HISTORY.

Another subject on which the “new education” lays stress is history, especially the history of our own race and country. The subject has been sadly neglected; but more and more it is seen that, to train men to build up the future, we must show them with what successes and failures their predecessors have built up the past.

#### INSTRUCTION IN MODERN LITERATURE.

No thoughtful man will deny that it is well to give even to students in industrial branches access to the best thoughts of the best thinkers; the study of the great modern languages and literature does this, and especially is it done by the study of this wonderful language and literature of our own.

#### INSTRUCTION IN THE NATURAL SCIENCES.

Another most important means of discipline and culture is to be found in the study of the natural sciences. On these much of industrial and general progress depends. They discipline the power of observation and reasoning upon observation. They give, too, a culture to the sense of beauty in form and fitness in adaptation.

#### METHODS.

A word in regard to certain leading methods of this system of education. I will allude to one or two. The first is the giving of great importance to the lecture-room

under this system. Any one who has had the pleasure of talking much with Prof. Agassiz can hardly fail to remember the delightfully comical way in which he pictured the ordinary system of rote-recitation from text-books. I think he did not exaggerate. It seems to me that, of all the means of obtaining discipline by study, that of text-book-recitation, which has been practiced for many years among us, is the most worthless. More and more we are coming to the idea of stimulating thought and rousing enthusiasm in the lecture-room, and then holding men to supplementary work in the examination-room. That is one of the methods of the new system. Another is in the development of laboratory-instruction. The old way was, even in the natural sciences, to give lectures, and nothing else. It was one everlasting study *about* things, and not a study of the *things themselves*. Generally it was book in the morning, book at noon, book at night. Now we have the book, and we have the lecture-room, and, more than that, we have the chemical laboratory; the museum, which is the laboratory for the study of natural sciences; the machine-shop, which is the laboratory in the department of mechanical science; the field, which is the laboratory in the agricultural department, bringing the student face to face with the *things themselves*. You have the book-culture supplemented by the culture which arises from the grapple with nature itself, by which a love of the subject is stimulated and an earnestness which will incline one to turn afterward to the book with interest hardly ever excited under the old system.

And now turn to another branch of the subject: the true policy of National and state-governments in dealing with industrial and scientific education. Many years ago that great, pure, noble man, Dr. William Ellery Channing, put forth the idea that the public lands of the United States ought to be consecrated religiously to the education of the people. Sad, indeed, is it that a policy so noble was not fully carried out. But, after all, it is matter of congratulation that it has been adopted and carried out at all. The Government of the United States has adopted the policy, and, though it has carried it out but partially, it has fostered education in our public schools by a consecration of a portion of the public domain to that purpose. It has fostered university-education in many States in the same way, and the great University of Michigan and many others are monuments of this benign policy. It has fostered academic education by the distribution of the surplus revenue to the States. And now, in the Morrill bill it has fostered industrial and scientific education by the same means. To that policy, then, the nation is committed.

The question is, what more should be done? I have endeavored to show you, very imperfectly indeed, or rather I have suggested to you, a train of thought which will enable you to see how much instruction in regard to industrial matters and in science applied to the great matters of the country may be made to bear upon the development of national wealth. But still, at this moment the provision is wretchedly poor. I do not speak for the State of New York. If any provision is made, I am ready to say, in behalf of the authorities there, that we ask not one dollar; all we ask is that there be given to various States needing it such an amount as will strengthen them and enable them to do their part in this great work.

Now, I argue that the nation and the various States must not only lay the foundations, as they have done for institutions for advanced industrial and scientific instruction, but must go on to build upon the foundations they have already laid. I argue it, first of all, because this is the only way in which such instruction can be developed. Here I meet an argument offered before this association last summer by President Eliot, of Harvard College. In his address, taking ground against a national university he put forth an argument opposed to any national or State-aid to any system of education whatever. So truly is this the drift of President Eliot's reasoning, that at this moment Bishop McQuaid of Rochester, N. Y., is using President Eliot's argument against our whole common-school-system. Now, on the face of it, this looks to me, and I think must appear to you who are conversant with education in this country, like kicking down the ladder by which one has risen. If there is any institution that owes much

to State-aid, it is Harvard University. Some of its first buildings were erected by State-aid. The legislature of Massachusetts has fostered and aided its great museum of comparative zoölogy, and has annually almost, for many years past, made greater or less appropriations for it. We have seen within a few years a national ship, though nominally under the charge and command of an officer of the Navy, really under the charge and direction of Prof. Agassiz and President Hill, and working in connection with the Harvard School of Natural Science.

Do I complain of that? No, I only complain that the head of such an institution should oppose the granting to other worthy institutions the same aid that has been granted to his own. Harvard University can now do very well without such aid. But go into the Western States or the States of the South, and you find all in need of it. Harvard University is over two hundred years old; in the city hard by is the concentrated capital of centuries; but there are no such means for the equipment of institutions in other parts of the country.

Says President Eliot, "It is a noble thing to leave this to the munificence of individuals." Can we afford to wait as long as Massachusetts has waited for Harvard University? Are you, who come from the West, prepared to wait for two hundred years before you can have a fully-equipped industrial and scientific institution?

President Eliot himself will not admit that Harvard University is what it ought to be. The best-equipped institution in the country, as it is, it does not compare with a multitude of institutions abroad that are much younger. I maintain that, even if you grant that Massachusetts can do without aid, the other States cannot.

I am reminded of the bill of Mr. Hoar. I would have preferred that something of Mr. Morrill's bill should be ingrafted upon it, making provision for industrial education; but I like the feature of basing the amount appropriated to different States upon the illiteracy in those States. It seems to me that, if an angel from Heaven had descended and told the Congress of the United States what to do for the salvation of the country from the great mass of barbarism, especially in the Southern States, it would have told those men to pass that law which provides for the primary education of the country; and, for the first ten years, to put that upon the basis of illiteracy, that is educating the freedmen of the South. [Applause.] Still, I think that, if the angel made the system perfect he would include in it a provision for advanced scientific and industrial education also. But President Eliot uses an argument which sadly weakens his position. He says: "You may rely upon individuals for your endowments." The last report of the Commissioner of Education shows, if I remember rightly, 367 institutions known as colleges and universities, but you can count on the fingers of one hand all those which really deserve the name.

In view of the wretched frittering away of resources, I maintain, secondly, that State-aid, national aid, is the only means by which individual munificence can be wisely directed or properly aggregated. Look at their munificence now; it is spread among so many institutions, and so capriciously, that it is wasted. I can show you one college to which one individual has given a magnificent telescope, but no one has given any endowment to provide for its use. I can show you another college which has received a great observatory, but with no telescope. I can point to another institution where an individual has made a gift of a magnificent cabinet of minerals, but no provision is made for instruction in mineralogy or metallurgy. I know another institution that has a splendid botanical cabinet, but there is no provision for a professorship, and the botanical cabinet has never been used. And so it goes all over the country. We must have nuclei for our institutions, towards which this private munificence can be directed and about which it can be aggregated; otherwise you may go on for a hundred years without having one institution worthy to be compared with those which are springing up in all other parts of the world.

Again, I maintain that national aid and State-aid constitute the only democratic, the only republican method of building up these institutions, President Eliot to the contrary notwithstanding. I maintain that, of all utterly undemocratic things and of all

unrepublican things, that system is the most undemocratic, the most unrepublican, which allows a dead testator to put his hands forth from his grave and keep them clutched about your systems of instruction. All over the country you see colleges held down from the fact that some man, in his will, fifty or a hundred years ago, attached certain conditions to his bequest which are now outgrown. I maintain that it is utterly unworthy of a republic to allow such control over its institutions by men in their graves. The true way, the manly way, is for the people of the United States to provide for the education of the people of the United States. It is far better to go at this work in such a manly way than to rely upon what can be wheedled out of individuals and then allow them from their graves to control the system.

Again, I maintain that you cannot have a healthy public-school-system without a system that includes the idea of a continued and gradual progress to this advanced education. I hold that the nation ought to provide for a system of education that should include all instruction, primary, secondary, industrial, and scientific, and general. I am aware that some objections are made to this. One objection comes from the *laissez-faire* school, who say, "Let things alone; all will be well enough." I do not discover that; I discover that, if things are to go on well in a generation, they must be taken care of by the common sense of that generation. Still, I am a believer in the *laissez-faire* school within its legitimate limits. But what are those limits? For anything which touches the cupidity of men, their pride, their desire to build up fortunes for themselves and their children, you may rely safely upon individual effort. But where great public interests are involved; where the security of the country is involved; where there are considerations which individuals do not so strongly feel, embracing interests that stretch far beyond the life of any individual, you have no right to rely wholly upon individual aid; you must rely upon national and State-aid.

Then, too, there is an economical objection. It is said that such a system costs too much. Does it? I believe it will be seen that *the want of it* is what costs too much. It is the want of instruction in these technical departments which costs. But for the fact of Mr. Clarence King's report upon the great diamond-bed-swindle, that one operation would have involved the loss of more money than the entire endowment of all the national institutions for general and industrial education.

But that is not all. You talk of economy. If you will go into any of our State-legislatures you will see a most curious system of ethics in regard to dealing with public institutions. If asked for money to found an asylum for idiots and lunatics, or the blind, or deaf and dumb, you will find our legislatures ready to build palaces for them, and to grant every provision for giving them the best lodgings, the best fare, the best ventilation, and all the conveniences of modern civilization. Millions of dollars are lavished upon your idiots, and deaf and dumb, and blind; and glad am I that it is done; but when you come to ask aid for the development of the young men on whom our civilization is to rest, for the proper care of the young men who are to make or mar the future of the country, there is nothing to be had for them. The future makers of your institutions and laws are left to poor diet, to live in the most wretched buildings. I do not know a college that has good ventilation; this is reserved for your idiots and others of a similar class. I maintain that the system is wrong. "These things ought ye to have done, and not to have left the others undone." Depend upon it, it is a great mistake in our civilization.

Then comes the argument of the demagogue, that advanced education is for the rich and not for the poor. Shallow as the argument is, it is worth looking at. Your rich man can send his son anywhere, to Europe if he will. If there is any class upon whose prosperity this system tells, it is that great, wide-spread, hard-working poor class; that great majority of poor men, whose sons are to do the work of future generations. [Applause.]

One objection more. Whenever a comparison is made with foreign institutions, it is said that foreign institutions are old and ours are new. That is a wretched mistake. The great majority of the leading scientific and industrial schools of France and Ger-



many are of recent creation. They are more recent than almost any of our great colleges and universities. Those great schools at Berlin, Carlsruhe, and Dresden, and those in France for the most part, are comparatively new schools.

#### OBJECTIONS.

And, finally, it is said there is something dangerous about scientific education. Can this be so? Is it true that dealing with the revelation of God in nature is calculated to do harm to any man?

Among the many striking passages in Herbert Spencer's *Treatise on Education* is one of special interest on this point. He asks, What would any author think were a person to come into his presence, praise his works, and dwell upon their beauty and perfection, when the author knew that this flatterer had never read a single page or even a single line of them? And what, then, must the great Author of all things think of those who come into his presence, extol his works in all moods and tenses, the great Author knowing that this flatterer has never studied out a line in the great book of nature; nay, that he has discouraged others from studying it?

#### UNION OF LITERARY, SCIENTIFIC, AND INDUSTRIAL STUDIES.

But an objection of another sort is raised. It is said, why give instruction in classical branches at all? I answer, for three reasons: First, because the act of Congress does not allow us to exclude them; secondly, because to those who wish them they are an excellent means of culture; thirdly, because we wish to avoid that old mistake of separating industrial and scientific students from classical students. Heretofore students in science and technology have been banished to some little special college, in some remote corner of a town or State, while classical students have had all the prestige arising from connection with large and thoroughly-equipped institutions. We stand upon the principle of considering one student the equal of another—the student in science and industry the equal of the student in classics. We stand against any separation which shall serve to perpetuate that old subordination of men in the new education to men in the old.

#### MENTAL DISCIPLINE.

But it is objected that the new system does not provide for mental discipline. Never was charge more absurd. Discipline comes by studies that take hold of a man and of which he takes hold. Is it not evident that the new system, which adapts studies to the tastes and aims of men, is more sure to take hold and be taken hold of than the old system, which grinds all alike through the same processes and studies?

#### SCIENCE, INDUSTRY, AND RELIGION.

And, finally, it is objected to the "new education" that it is "godless." There is nothing new in this charge. It has been made against every great step in the progress of science or education. And yet it has certainly been found that, although ideas of religion are changed from age to age, the change has tended constantly to make these religious ideas purer and nobler. The majority of the fathers of the Papal Church held the new idea of the rotundity of the earth to be incompatible with salvation. Martin Luther thought Copernicus a blasphemer for his new idea that the earth revolves about the sun, and not the sun about the earth. Dean Cockburn declared the new science of geology a study invented by the devil, and unlawful for Christians. When John Reuchlin and his compeers urged the substitution of studies in the classics for studies in the mediæval scholastic philosophy, their books were burned, and they themselves narrowly escaped the same fate.

No, my friends, every study which tends to improve the industry of mankind makes men nobler and better. Every study which gives man to know more of the history of his race gives him to see more and more clearly the finger of Providence in history; every study which brings his mind into contact with the thoughts of inspired men as exhibited in our literatures builds up his manliness and his godliness; and every study

which brings him into close contact with nature, in any of its fields, not less surely lifts him, "through nature, up to nature's God."

I have thus sketched very meagerly the growth, thus far, of the "new education." Its roots are firm, for they take fast hold upon the strongest material necessities of our land. Its trunk is thrifty, for it is fed by the most vitalizing currents of thought which sweep through our time; nay, the very blasts of opposition to this growth have but strengthened it. The winter of discontent through which it has passed has but toughened it; and in agriculture and every branch of industry; in every science and art which ministers to either; in all the development of human thought which is to make men better and braver, it is to bear a rich fruitage for the State, for the nation, and for mankind.

Prof. COMFORT, of Syracuse University, thought it the policy of a wise general to strengthen the weak points of his defenses; and for a similar reason he thought educators should turn their attention to what is really a necessity in our system of education, to which allusion had not been made, and that is the importance of a cultivation of the fine arts. We have pushed classical education in Harvard College from the commencement to the present time, when it has secured a strong footing. Scientific education has pushed its way to a considerable extent; manufacturers have demanded that there shall be scientific education to enable them to succeed in their processes. Men shall not live, however, by bread alone, and we have a spiritual as well as a bodily want; and among the three great wants of the spirit is the gratification of the taste; and we in America are acting contrary to what we know of the history of other nations. In Egypt, Greece, and other countries we find that the human spirit was developed harmoniously. We have remained for two hundred years with little or no progress in the fine arts. Should there not be a broad, deep, and thorough education in the esthetic part of our nature? The department of architecture, it is agreed, requires culture in esthetics. Architecture is a queen which has a sway over the other arts. As we have almost no art-schools in America, it seems that this is a department which needs attention; therefore, if Senator Morrill should ask my advice as to what should be done with the next appropriation, I would say let us have schools of art established, which, alongside the schools of science, may provide for the instruction of our children in art.

I wish the speaker had carried the matter of a national university much further; and, if the money is to go to public education, I wish he had taken the ground that all should go to one institution in the State of New York.

Prof. COMFORT also spoke of the difference between the universities of Europe and those so called in America, and stated that it would cost a million dollars to support the same teaching force in New York which in Berlin costs only 300,000 thalers.

President WHITE. There is one stitch that I dropped in my remarks, which I am reminded of, and that is that all the national aid and State-aid needed for this work are afforded by the act of 1862. We have

received gifts, in connection with that act, from individuals, to the amount of more than \$1,600,000, for institutions in New York; and of this not a dollar would have been given to educational purposes had not this nucleus been afforded. The working of the thing was just this: The leading men in New York saw that there was at last a chance to have something worthy of the State. There was a State with 4,000,000 people who had sent their sons away to be educated. But when they could rely upon the aid of the nation they saw there was a chance to make an institution worthy of the State and commensurate to its wants.

I maintain that we need gifts of this sort, about which private gifts can be aggregated, and that, when we have these, individual gifts will also come in; and we already see examples of it in this country. As we have no laws of primogeniture, as in England, the feeling of patriotism and public spirit leads men of wealth to appreciate colleges and universities; and so I maintain that the nuclei afforded by national and State-aid to our public institutions give an incentive for the establishment and maintenance of such institutions.

#### REMARKS OF HON. J. S. MORRILL.

Hon. J. S. Morrill, United States Senator from Vermont, being present, was called upon; when he said:

MR. CHAIRMAN AND GENTLEMEN: I have been taken by surprise. I believe the president cannot be aware of what the custom is here in Washington, but at all evening-gatherings I think it is not expected that anybody will be ready for dress-parade until after 11 o'clock. It is not that hour now, and certainly I came here with no expectation of being called upon to say anything.

I am, however, very happy to be present among a body of men who are friends of learning of any sort. Education or learning in any line tends to form all men of generous minds into one republic, where there is no jealousy nor envy, but, instead, a broader patriotism and an honest pride in the success of States and individuals.

But, Mr. President and gentlemen, there is in this country an aspiration among the masses at the present time to rise to something higher than can be attained at a common school. There is a spirit of discontent among laboring men, agriculturists, and mechanics all over our country for some boon by which they may be able to rise somewhat higher as men.

Is it to be believed that, among the millions of men who obtain no culture such as is obtained by the five thousand only who are graduated by our present colleges, there are not many men who would rise to distinction and be as much shining lights in the world, if they had the opportunity, as any among that five thousand who have had the opportunity? Allow me to say that it has been my ambition, in the little that I have been enabled to do, to give to a larger number of men an opportunity to develop their full intellectual vigor and strength, and thus to become of greater value to themselves and the nation.

Mr. President, if there is anything that becomes educators it is their enthusiasm. I am glad to see so many gentlemen, as I suppose from all parts of the country, engaged in the work of education. It is their unselfish enthusiasm that leads them to the work, and there never was holier work than that of educating men and women in all the duties of life and enabling them to worship God intelligently. [Applause.]

The subject was then referred to the committee on national aid to education.

Adjourned.

---

---

PROCEEDINGS—SECOND DAY.

---

---



FRIDAY, *January 30, 1874.*

SECOND DAY.

The department re-assembled at the hall of the house of delegates at 9½ o'clock on this morning, with an increased attendance of members. The audience was larger than yesterday, and a number of ladies were present. The department was called to order by Mr. J. H. Binford, the president, at whose request Rev. Mr. S. S. Mitchell, of Washington City, opened the proceedings with prayer.

The Chair read a communication from the secretary of the Vermont State Teachers' Association, inclosing a resolution recently adopted by the association, indorsing the plan of giving the proceeds of the sale of public lands for educational purposes; referred to the committee on national aid to education. Also, a communication from Governor Shepherd inviting the department to partake of lunch at his residence at 2½ o'clock this afternoon. The invitation of the governor was accepted.

Mr. J. O. WILSON extended an invitation to the members of the department to visit the public schools of Washington during their stay in this city; also, an invitation to attend a literary entertainment to be given by the young ladies connected with one of the advanced schools of Washington at the Seaton school-building this evening. On motion of Mr. Philbrick, of Boston, the thanks of the department were tendered to Mr. Wilson for his courtesy, and the invitations he extended were accepted.

Mr. BICKNELL desired to remind the department that the State Teachers' Association of Rhode Island have passed a resolution similar to the one forwarded by the secretary of the Vermont Association.

THE CENTENNIAL.

General Eaton, from the committee on the Centennial, reported progress, and said the committee had given careful consideration to the subject and were able to present at this time several recommendations.

He said there was a most cordial and earnest interest manifested by every member of the committee in making the educational feature of the Centennial a success.

They recommend—

(1) That each State and Territory be invited to prepare a representation of its educational condition for the Centennial.

(2) That each State and Territory also be invited to prepare a historical record of its educational progress for the same purpose.

(3) That each city be invited to act with the State-authorities in pre-

paring such records, and that it present an exhibit of its own educational growth and condition.

(4) That each educational institution be invited to participate in the same way.

(5) That a census be taken in 1875. That the Commissioner of Education be requested, on behalf of the educators of this country, to correspond with the prominent educators of the world and invite their co-operation in the matter of the Centennial.

(6) That an international educational congress be held in connection with the Centennial.

The report was accepted.

General EATON said: As our views in these matters are just now shaping themselves and will depend very much upon the facts that are before us, those which we have in mind, and can more or less see, I desire very much that Mr. Philbrick—who was present at Vienna, and who is well known throughout the country and the world as the distinguished superintendent for Boston, and had so much to do in promoting the success of the American educational exposition at Vienna—be invited to state facts which may aid the different members of this department in deciding what is feasible and how the exposition at Philadelphia can be made a success.

Mr. PHILBRICK said: Mr. President, I do not come this morning prepared to say anything on this subject. It is a very broad one, and I hardly know what it may be best to attempt to say about it. I can say, however, at the outset, that I feel a very deep interest in the whole project, and I hope it will be carried out successfully. I consider it a very important movement for the promotion of the cause of education in this country. It will not be easy, of course, to make a proper, full, and complete representation of the educational condition of this country. But the very effort which will be required by the different States and cities to accomplish this purpose, the examination which it will necessarily require educational authorities and teachers everywhere to make, until that time, in the study of their educational affairs, will itself be of immense advantage in disclosing their deficiencies and imperfections as well as their excellences, and will, therefore, tend no doubt, in a very large degree, to give a new impulse to the progressive movement of the cause of education throughout the country.

If I could, this morning, Mr. President, take the grand World's Exhibition at Vienna and place it somewhere in the vicinity of the city of Washington, and then take this company of assembled superintendents there for just one day, to take simply a cursory glance at that magnificent display of the results of the skill and learning of the world, including the educational department; when you came to see, as you undoubtedly would, the grand cause underlying all, the source from which all that magnificent display of the products of the human mind had been derived, you would begin to perceive the bearing and relation of the

exhibition of educational institutions and systems in connection with the progress of civilization in the world. There is now, I believe, no doubt, in the minds of the most advanced philosophers and statesmen, that the remark of the great French statesman and educator, that "the nation which has the best schools is the first nation, or, if it is not so to-day, it will be to-morrow," is absolutely correct. Sir, that idea is coming to be recognized universally throughout the civilized world; and in proportion as it becomes recognized and comes to be carried out in actual affairs in connection with education, just in that proportion shall we make progress in everything that is desirable in civilization.

Now, it has been proposed in the report just submitted that each State and Territory shall be invited to make its own representation in the coming World's Exhibition to be held in Philadelphia. I regard this as a recommendation that cannot fail to stimulate the friends of education and enterprising educational officers in every State to endeavor to make the best possible representation of their respective systems and institutions; and if, by calling upon foreign nations, we can succeed in inducing Prussia or Saxony, Württemberg, Austria, France, Sweden, or Switzerland, or England even—any one of these people—to come and display at Philadelphia their systems and the result of their work, I have no doubt it will be of the greatest advantage to the cause of education in this country.

You know very well—the whole country knows—that America, as a whole, made a very insignificant display at the Vienna Exposition, an exhibition humiliating to every American, by the side of what was exhibited, even from the smallest European nation. I of course will except, in this sweeping remark, some excellent machines exhibited from America; and I think I may be permitted to say, having had so very little to do with it, that the educational department from America was relatively the most respectable of the twenty-five groups exhibited from this country at Vienna. And yet I want to say, Mr. President, that, in comparing in certain departments even our best things with the exhibition of other educational systems at Vienna, I could not help feeling that we were immensely inferior to almost all the nations there represented, and particularly in the department which related to technical education. It is unnecessary for me to go into details in regard to this; but I would say, sir, that I believe that, if we had had the money which we needed, we could have placed at Vienna a school-house, with all its equipments, equal to that which was placed there by the Swedish government.

I mean no discredit to the learned gentlemen connected with education in America; but, within my knowledge, there is not one, even the most eminent and accomplished among them, who would have known how to plan and arrange a school-house, fit it up, and furnish it, with all the appliances of apparatus, in the scientific, tasteful, neat, and complete manner which was seen in that Swedish school-house. And if we



could have such a thing as that alone, if we had nothing else, at the grand World's Exposition at Philadelphia, for everybody—men, women, and children—to look at, I undertake to say that that alone would be of sufficient benefit to this country to pay for all the expense of the Exposition, even if the Government appropriates, as I hope it will, \$5,000,000.

That is only one thing. I am sure, if that Exposition is held, there will be thousands upon thousands, at a very moderate estimate, of the teachers of our country who will go there and examine the section appropriated to the exhibition of education. They will do as those schoolmasters of Europe did, many of them, with inadequate salaries, traveling hundreds of miles, and going through and examining every part of the exhibition, taking copious notes with the greatest zeal, to carry home an idea. Think of the ideas that would be spread broadcast over every part of our country from such an exhibition. In school-furniture America stood foremost; and that little exhibition of school-furniture made its impression upon the civilized world. There is no doubt that the splendid single desk and chair from that point will travel around the world. From that time forth nobody who knows about it—and a knowledge of it is to be spread by drawings and cuts—will ever consider that a school is properly furnished for education unless it have that identical kind of furniture. But I am taking up your time, and beg your pardon for saying so much.

General EATON. There is very great difficulty in getting information, and, for that reason, I am obliged to Hon. Mr. Philbrick for the interesting statement he has presented. The department is undoubtedly aware that the Centennial at Philadelphia has a large commission in charge of it and that they have organized their forces; they have a committee on education, and have prepared their programme, of which I have done all in my power to get a copy for the benefit of the department of superintendence here. I have only one copy, however.

I expected that before this time the president of the commission, Governor Hawley, would be here to make an official statement of the present position of the Exposition; and perhaps Judge Kelley, the chairman of the House Committee on the Centennial.

To illustrate what had been said by Mr. Philbrick in regard to the exposition at Vienna, General EATON called attention to two volumes, which he had with him, published by the Austrian government, showing the progress of education in that country. These, he said, contain not only historic text, but also a number of very interesting maps. An examination of these volumes tends to show how readily much similar work can be done in this country by ourselves. Not only were these publications made by the governments, but corresponding ones were made by institutions; not for general distribution, but for examination by experts. It is very difficult to obtain these, as only a few copies are prepared by some institutions; but the men who prepared them are among the very ablest in their respective specialties. Though fur-

nished with every possible facility for obtaining such matter while at Vienna, he could not obtain there a copy of an important work on the agricultural school at Milan. He found on visiting Milan that only three copies of the publication referred to were in existence. One of these three he was able to bring away with him. The efforts made to secure this were detailed by General Eaton, who said that he considered it one of the most valuable monographs ever prepared in Italy on the subject of agricultural education.

On examining the specimens of writing and drawing in a Portuguese school-house at Vienna, he was struck with the universality of the influence of such expositions, for he noticed that the age of the boys and girls who prepared the specimens was the same as that of the boys and girls who sent specimens from this country, and that the date of the preparation of these specimens was the same. But then they got ahead of us in Portugal; for they not only gave the name and age and date of writing, but a photograph of the pupil who prepared the accompanying specimen, affording thus a further means of judging of the child's capacity.

Hon. J. P. WICKERSHAM. I was a member of the committee from whom this report came, and I approve cordially of its recommendations. I like the proposition calling upon each State and Territory to represent its educational features at Philadelphia. I believe that calling upon each State and Territory separately to represent itself in this way will bring out the best that each has to show.

In the committee the question was discussed as to whether it was best to call upon the nation as a whole or each State and Territory separately. I am very decidedly of the opinion that it is best to call upon them to be represented separately.

Each State will be put upon its metal and will be stimulated to do the best it can. I like the idea, too, of calling upon each institution, college, and private institution; let them all be represented there.

The idea of our Educational Congress, too, strikes me very favorably. I like the idea of asking all the world to come and bring what they have to show in reference to educational systems, and to come themselves; it is better to come themselves than to send. And I hope that, while that exhibition is held, there will be an international congress in which may be representatives from all the enlightened countries of the world, and unenlightened nations too, if they choose to be present.

This Exposition is to be held in Philadelphia, in Pennsylvania; and, as I came from that State, I may be pardoned for saying a word with reference to the relation of Philadelphia and of Pennsylvania to it, since Judge Kelley is not here. I am not prepared to go into details, because I have given them but little attention. First of all, in a financial way Philadelphia and Pennsylvania mean to do their duty fully in regard to it. Philadelphia has made arrangements for appropriating a million of dollars. The city has already made a large appropriation,

and will increase it to a million dollars. We hope to increase this to two millions by subscription from individuals. The other portions of the State, you may rest assured, will contribute to that Exposition at least two and a half million dollars. If necessary, we will do more than that. I think I know the spirit of the people in this regard.

But I want to say, most of all, here, that this Exposition is not an exposition for Philadelphia or for Pennsylvania; it is not a city- or a State-exposition; it is an Exposition of the United States of America; and all the States have an equal interest in this matter with the State of Pennsylvania and all the cities have an equal interest, in a national point of view, with the city of Philadelphia. We desire to make it a truly national matter; and we want the interest of the State of Virginia and the State of Massachusetts, and of all the States, in this Exposition to be felt by our people.

With regard to Philadelphia, I need not say that it is a city of some seven hundred thousand people; and we expect the hospitality of that city to be tendered to our own people and to the people of the nation, to the people of the world.

There is no doubt that those who have this matter in charge intend that all who come shall receive ample accommodations, and that there shall not be exorbitant prices charged, as was done at Vienna.

Then, this exposition is to be in a tract of 3,000 acres, perhaps the largest park connected with any city in America or in the world. This has been to a considerable extent improved, and will of itself be an attraction. I am not minutely acquainted with the plan of the exhibition-building, but I am told that it is superior to either that at Paris, London, or Vienna; and I hope and believe it will have space enough, so that everything that is valuable which is sent to it can be put on exhibition. In particular, I hope there will be room enough to represent the educational systems of the country, and I believe it will be so, because nothing now attracts more attention than the subject of education. Indeed, if the people of the Old World come at all, it will be more for the purpose of seeing our school-systems than anything else. I understand there was more desire on the part of the authorities at Vienna that our school-system should be represented there than anything else. Indeed, a letter from Baron Schwartz-Senborn said: "Whatever else is neglected, do not leave the matter of education unrepresented."

Pennsylvania and the United States have undertaken this exposition, and we cannot go back without humiliation. I was glad to hear Mr. Philbrick, coming from Boston, say he hoped the General Government would appropriate \$5,000,000. Why, sir, if it costs Pennsylvania \$5,000,000, we cannot go back. The President of the United States has already invited foreign governments to be represented here, and we cannot go back; and in going forward we must endeavor to do credit to the nation. I hope, therefore, that, at whatever expense of time and

labor, we shall go through with it and have such a national Exhibition at Philadelphia as has never been seen and cannot be equaled by any other country in the world.

Mr. PHILBRICK. I said our exhibition in the matter of education at Vienna was comparatively creditable; but I did not say, what I must now say, that the credit, whatever credit there was—and it was that which redeemed us to some extent in the eyes of Europe—was due, in my humble judgment, primarily and solely, to the labors and the plans of the national Commissioner of Education at Washington. [Applause.]

And I want to say another word about that: that what little I did towards it was wholly stimulated, caused, brought about, by the influence of the Commissioner at Washington, and was done with an humble attempt to co-operate with him in the arduous labors he is giving us to promote the cause of education throughout the country.

About that five million: I do not go back on that a hair; I say it deliberately; I put it at the lowest figure.

Mr. BICKNELL. I think we all recognize the great stimulus that will come to the educators of the country from this Exposition, and I heartily concur with Mr. Wickersham and Mr. Philbrick in reference to the co-operation of the General Government and our own States. The benefits will come, not only from activities awakened in our country, but from comparisons of results here with those of the educational fields abroad. Mr. Philbrick has said that, if Sweden comes here and presents her admirable system, we shall learn what the great mass of teachers cannot learn otherwise, as they cannot go abroad. Those who go abroad are liable to come home with very rosy accounts of the things they have seen. It is natural that men should have their eyes open in regard to matters of all kinds, educational and others, which they see abroad, and that they should come back impressed with the idea that the people abroad are doing everything and that we are doing nothing.

From our own shores we can compare the work that we are doing with what they are doing much better than abroad. I was glad to hear Mr. Philbrick say that, if in other departments our nation did not gain much credit, here we were redeemed; and I suppose it was Mr. Philbrick's modesty that led him not to say the Boston department was more fully represented than any other. I was greatly delighted to see there the model of the Franklin school-house at Washington. The perfection of details about it seemed to me to gain great credit for the Capital of our country.

I am very glad to hear presented to the Commissioner of Education the compliments as to the stimulus he gave to this work; and I think Dr. Hoyt, of Wisconsin, who found everything in confusion and put his hand to the work and arranged the department, so as to make it creditable, deserves to be mentioned also.

I think these two names should be honored for their labors done in this department.

Prof. COMFORT thought the committee might be intrusted with authority to receive or reject whatever might be sent, so as to make the exposition of educational matters harmonious.

General EATON. The department will remember that a permanent committee was appointed by the association in reference to the subject of the Centennial, with this in view, to bring the educators particularly into the field of the representation, to co-operate with the Philadelphia commission; not to exercise any authority, but simply to offer facilities by which results might be brought about. Some time ago the National Association passed resolutions in that direction, and this convention has adopted a similar resolution to participate, and recommend the matter to each State and Territory, the chairman of the committee in each State to be the chief executive officer; that is, in New York, Mr. Weaver; in Pennsylvania, Mr. Wickersham, and so on; he to designate throughout the State such other associates on the committee as he may deem advisable, such as city-superintendents and heads of institutions of learning. The object is to use the supervision of the country, which touches every educational interest and which stimulates every feature of education, and induce it to come forward to participate.

Prof. COMFORT. Mr. Weaver has authority only in reference to common schools. In New York the regents of the university try to organize all the offices of colleges and academies.

The report of the committee and resolutions presented on the Centennial Exposition were then adopted.

Hon. W. H. RUFFNER, from the committee on national aid to education, reported a series of resolutions for adoption. He said: In order that these resolutions may be understood, I would preface each of them with a few explanatory remarks. We meet with one very widely-spread prejudice against any sort of aid from the National Government, for any educational purpose whatever. I know this prejudice exists strongly in my part of the country and elsewhere. It arises from the fear that there is in the minds of the educators, or possibly of the political men of the country, a desire to establish ultimately a national system of education. Your committee do not believe that there is any such party as that in the country, among either educators or politicians. They think it is an imaginary danger entirely. But, in order to prepare the public mind for entertaining favorably this whole idea of national aid to education, the committee thought it advisable to pass a resolution which would amount to a disclaimer, on the part of this body at least, of any favor towards an idea of that kind. That is the explanation of the first resolution. The third resolution has reference to setting apart of public lands for educational purposes. It is well known that that subject is now before Congress. It is also known that there are different views in Congress with regard to the special objects which should receive the benefit of these public lands, if they should be so set apart.

*It will be observed that this committee does not propose that the*

department shall connect itself with either of the two great parties ; but would manifest a favorable spirit towards the general idea of setting apart these lands for educational purposes. That is in one resolution ; and that is followed by another, expressing a favorable interest in both the great subjects that are seeking these public lands, namely : the subject of technical education and also that of common schools.

#### RECEPTION OF THE PRESIDENT.

At this point the President of the United States entered the hall, upon which the department rose and received him with applause.

President Binford, as the President reached the platform and while the department was standing, said : "I am happy to present to the convention the President of the United States, whom we all recognize as our friend, both theoretically and practically."

Mr. Ruffner then resumed his remarks and said : We think this resolution meets with universal favor, no objection to it having been made in Congress or elsewhere ; and we propose that this convention shall express its favorable view in regard to it.

In regard to the fourth resolution Mr. Ruffner said : I suppose the convention is aware that these respective parties, those favoring the common-school-education particularly and those favoring technical education, have heretofore acted separately ; there have been distinct bills before Congress in behalf of these two objects. The committee propose that the friends of education in Congress should unite and agree upon a single bill ; agree, too, among themselves as to the items of that bill and as to the appropriations that may be allowed ; and then leave it discretionary with the State-legislatures to use the funds in the way indicated ; that is, as respects those two objects. If they wish to give a certain proportion to the technical colleges, they will be at liberty to do so, to give either the maximum amount allowed or some smaller amount. The object of that resolution is not to cut off these technical institutions, whose claims were so forcibly presented to our consideration last evening by President White ; not to undertake, as school-superintendents, to absorb the whole for common schools, but to give colleges and technical schools their share.

The report was then received. The resolutions are as follows :

*Resolved*, (1,) That this convention strongly approves the policy hitherto pursued by the Federal Government of leaving the people and local government of each State to manage their own educational affairs without interference, believing that the principle on which this policy is based is as sound educationally as it is politically.

*Resolved*, (2,) That this convention acknowledge the great service done to the cause of education by Congress, in establishing and maintaining a Department of Education similar in principle to those of agriculture and statistics, whereby appropriate information from all points of the world may be gathered, digested, and distributed and whereby a number of important ends may be subserved in connection with the practical work of education. It would also acknowledge specially the very valuable

service already done by the Bureau of Education, and would venture to express the hope that its means of usefulness may be increased.

*Resolved*, (3,) That this convention most heartily indorses the proposition, already under consideration by Congress, to set apart the public lands of the United States exclusively for the purposes of free education in the States and Territories ; and it also approves the proviso that, at least for the present, the basis of division shall be illiteracy existing in the several States in the population, from ten years old and upwards ; but would deprecate the attachment to such grant of any conditions which would embarrass its use in any State, excepting the sole condition needed to insure its application to the objects for which it is given.

*Resolved*, (4,) That this convention favors such united action on the part of the special friends of primary and of agricultural and other industrial education, respectively, as would allow the various State- and territorial legislatures to employ 25 per cent. of such donated funds for the purposes of industrial education.

#### RECEPTION OF THE HON. SECRETARY OF THE INTERIOR AND HON. A. R. SHEPHERD, GOVERNOR OF THE DISTRICT.

At this point Hon. Columbus Delano, Secretary of the Interior, and Hon. A. R. Shepherd, governor of the District of Columbia, entered. On being introduced, they were cordially applauded. On introducing Governor Shepherd, President Binford expressed his gratification at the fact that "we are honored by the presence of one whose efforts are given to make the capital of the nation a place of beauty and a joy forever, an endeavor which we all appreciate." [Applause.]

#### RESPONSE BY GOVERNOR SHEPHERD.

Governor Shepherd responded as follows :

It gives me great pleasure to meet and welcome an assembly of so many able and well-informed men in this Capital of the nation, for the assembling of such a body is an event of intense interest to me. It is gratifying to know that within the past few years such wonderful strides have been taken in the development of our educational interests. So far as our District is concerned, we have endeavored to make our advance in educational matters keep pace with our material progress. This has been a difficult work, in consequence of the floating population brought among us. But the people of the District have never faltered, and I do not believe they ever will falter, in this attempt.

I am happy to meet this body of educators, and to wish you God-speed in your noble work.

At this point General Hawley, of Connecticut, president of the Centennial Commission, and Judge Kelley, of Pennsylvania, from the Congressional Committee on the Exposition, entered the hall, and were introduced to the convention. General Hawley explained the reasons for their apparently late appearance and spoke as follows. Excusing himself on the ground of urgent duties at the House, the honorable gentleman retired immediately on the conclusion of his address.

#### REMARKS OF GENERAL HAWLEY.

General Hawley, president of the Centennial Commission, was then introduced, who said :

MR. CHAIRMAN AND GENTLEMEN : I am rejoiced at what you have already done in

relation to the Centennial Celebration and International Exhibition of 1876, and I perceive you have a complete comprehension of the case.

Of course it was evident that there must be a celebration in 1876. The boys knew it, even if the men did not. Everybody knew that no other nation could in such a manner name the precise day of its birth. The origin of most other nations is lost in the mists of tradition. But we can point to July 4, 1776, as the day when we stepped into the family of nations, and under circumstances that we think are exceedingly important in the history of the governments of the world.

You know that we will celebrate that anniversary ; and of course every boy thinks of fire-crackers and all the noisy demonstrations of which John Adams spoke. And, however foolish some may consider such things, there is not a man, I don't care how many laws he has helped to pass against fire-crackers, who will not sympathize with the boys on the annual return of the Fourth.

But there will be something besides demonstrations of this kind, something besides the beating of drums and the thundering of cannon. What so appropriate as this Exhibition, which is to mark the improvement of a century ? International exhibitions are no new thing ; they have been coming into fashion since the great Exposition of 1850, in London. Nothing is more interesting or valuable, as a mere exhibition of material progress. We want not only a national Exhibition, but an international one. So the first step was taken when Congress passed the following act :

"An act to provide for celebrating the one hundredth anniversary of American Independence, by holding an International Exhibition of Arts, Manufactures, and Products of the Soil and Mine, in the city of Philadelphia and State of Pennsylvania, in the year eighteen hundred and seventy-six.

"Whereas the Declaration of Independence of the United States of America was prepared, signed, and promulgated in the year seventeen hundred and seventy-six, in the city of Philadelphia ; and whereas it behooves the people of the United States to celebrate, by appropriate ceremonies, the centennial anniversary of this memorable and decisive event, which constituted the fourth day of July, anno Domini seventeen hundred and seventy-six, the birthday of the nation ; and whereas it is deemed fitting that the completion of the first century of our national existence shall be commemorated by an exhibition of the natural resources of the country and their development and of its progress in those arts which benefit mankind, in comparison with those of older nations ; and whereas no place is so appropriate for such an exhibition as the city in which occurred the event it is designed to commemorate ; and whereas, as the exhibition should be a national celebration, in which the people of the whole country should participate, it should have the sanction of the Congress of the United States : Therefore,

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That an exhibition of American and foreign arts, products, and manufactures shall be held under the auspices of the Government of the United States, in the city of Philadelphia, in the year eighteen hundred and seventy-six.

"SEC. 2. That a commission, to consist of not more than one delegate from each State and from each Territory of the United States, whose functions shall continue until the close of the Exhibition, shall be constituted, whose duty it shall be to prepare and superintend the execution of a plan for holding the Exhibition ; and, after conference with the authorities of the city of Philadelphia, to fix upon a suitable site within the corporate limits of the said city, where the Exhibition shall be held.

"SEC. 3. That said commissioners shall be appointed within one year from the passage of this act, by the President of the United States, on the nomination of the governors of the States and Territories, respectively.

"SEC. 4. That in the same manner there shall be appointed one commissioner from each State and Territory of the United States, who shall assume the place and perform the duties of such commissioner and commissioners as may be unable to attend the meetings of the commission.



"SEC. 5. That the commission shall hold its meetings in the city of Philadelphia, and that a majority of its members shall have full power to make all needful rules for its government.

"SEC. 6. That the commission shall report to Congress, at the first session after its appointment, a suitable date for opening and for closing the exhibition; a schedule of appropriate ceremonies for opening or dedicating the same; a plan or plans of the buildings; a complete plan for the reception and classification of articles intended for exhibition; the requisite custom-house-regulations for the introduction into this country of the articles from foreign countries intended for exhibition; and such other matters as in their judgment may be important.

"SEC. 7. That no compensation for services shall be paid to the commissioners or other officers provided by this act from the Treasury of the United States; and the United States shall not be liable for any expenses attending such Exhibition or by reason of the same.

"SEC. 8. That, whenever the President shall be informed by the governor of the State of Pennsylvania that provision has been made for the erection of suitable buildings for the purpose and for the exclusive control by the commission herein provided for of the proposed exhibition, the President shall, through the Department of State, make proclamation of the same, setting forth the time at which the Exhibition will open and the place at which it will be held; and he shall communicate to the diplomatic representatives of all nations copies of the same, together with such regulations as may be adopted by the commissioners, for publication in their respective countries."

I need not spend time to show the appropriateness of the place where this is to be held. New York would have been glad to hold it there; so would Baltimore, and many other places; but it was perfectly obvious that it could not be held with any propriety in any other place than Philadelphia, where the Declaration of Independence was proclaimed and where the old Independence Hall yet stands. By the provisions of the bill it will be seen that ninety-four commissioners are to be nominated by the respective governors and appointed by the President. It is settled that we are to have a great International Exhibition, and at Philadelphia; and notice has been given to the world, and five or six nations [many more since this was said] have accepted the invitation. There was a technical defect in the act, and Secretary Fish says he could not use the word "invite." It is, therefore, necessary that we have power to invite the nations definitely; otherwise they will not come. [Congress has since authorized this.] The only way to get exhibitors from abroad will be to invite the governments, and the people through the governments, and then those governments will appoint commissioners to take care of their interests in the exhibition. The people of Europe, who are engaged in commerce, see that they cannot afford to stay away. Our coming International is as well understood in Europe as in America; I might say, better; because our representatives at the Vienna Exhibition have explained it to the commissioners and exhibitors from other countries; it was advertised in many languages in the Vienna catalogues; it has been discussed in leading journals all over Europe. Correspondence pours in upon us from all parts of the world.

The world wants to come; China and Japan will be here, and we shall have our pride and vanity touched a little, perhaps wholesomely so, when we come to the Exhibition. But other people will learn something, also, in respect to material progress; we shall all learn. No nation has so wide a range of territory, or can exhibit in such variety its products or show a growth from three to forty-two millions of people; in 1776 a few small colonies, in 1876 a nation of forty-seven States and Territories, extending from the Atlantic to the Pacific.

(The great variety of our mineral and vegetable products was then referred to, as well as the importance of our manufactured articles which are to be exhibited.)

The first act with reference to the Centennial was passed nearly three years ago.

We have gone on as far as we could. The State of Pennsylvania was expected to take *the lead in the matter*, and she has done her full duty, with all generosity, courtesy, and

good sense. Her people placed at the disposition of the commissioners more than three million dollars. [Since made more than four millions.] It is time for the rest to do something. Just as we were anticipating great assistance, the financial disasters came down on us like a great darkness. Now we must ask Congress to help us start. I do not care how they do it. But we are going through anyhow, whether Congress helps or not. The Exhibition will be held, and it will be one creditable to us, because Pennsylvania and Philadelphia, aided by individual efforts elsewhere, are determined to carry it through. But we should be ashamed to let this burden fall almost wholly on one State. The American people will not do that; our pride is involved. Whatever is worth doing by a whole people can be done better by a free people than any other. No single man can call or order out the efforts of a people so well as the people themselves, when they unanimously determine to work. I want it demonstrated that, what no king could compel a people to do, we, the people, can do.

I am very glad you have given me an opportunity to come here and speak of this subject. You reach a large part of the educated mind of the country, which is working for something outside of and above and beyond itself. You are a body of very practical philanthropists in that respect, and you reach men who do not ask for a dividend upon all their outlays. You, who control or are very influential in controlling the educational associations of your several States, can aid us immensely in all respects. Especially you can see to it that there shall be a full representation of the condition of education and the appliances for educational labor\* in 1776 and in 1876, and the steps of progress during the intervening century. You will not have this field all to yourselves. You would hardly look for a competitor in Austria, but Austria will make a special exhibit in the educational department; and our friends who have visited that country tell us that we can learn from her.

The International Exhibition of 1876 can and must be made worthy of the nation. It will be of immense advantage to manufacturing, mechanical, and commercial interests; it will greatly stimulate immigration; it will greatly promote good feeling between all sections of our own country and with foreign nations. This being true, we are sure to have the good will and the good works of all friends of education and of mental and moral progress.

#### REMARKS OF HON. W. D. KELLEY.

Hon. W. D. KELLEY, chairman of the House Committee on the Centennial, was then introduced, and said:

MR. CHAIRMAN AND GENTLEMEN AND LADIES: I do not know that I can say anything very appropriate to this occasion; and yet the subject is one that inspires me with enthusiasm, and upon which, should I talk too long, you will pardon me when I shall have told you that on this theme I could fight "until my eyelids would no longer wag." I think that the great international, social event of the century is to transpire in the coming Centennial Exposition. This in itself, and its location in this country, will make it a great educator, and will teach grand lessons, the grandest humanity may learn, with an emphasis with which they have never been uttered. Great Britain, France, Germany, Austria, will be here, with China, Japan, Siam, and the islands of the sea. You are all prepared to believe that we shall be able to teach the Chinese, the Japanese, and other remote people something by the exhibition of educational systems of our country, the modes of administering our laws, and many other things; but, in my judgment, we shall impart to Great Britain, Germany, France, Austria, Spain, and other continental nations grander lessons, which they will accept as more immediately applicable.

---

\*See Appendix B for classification of groups relating to educational matters.

What is the question now chiefly agitating England? What is the question that may yet divide the British Islands, as other great nations of Europe, into separate states? Can a state exist whose education is purely secular and from whose public schools dogmatic theology is excluded? is the paramount question upon which the coming parliamentary elections in England will chiefly turn. Can religion continue to exist among a people without a state-church? is a question only second in British consideration to the one just stated. Government and people will come to find us absorbing nearly half a million of foreigners a year, with four million freedmen among us, who less than a decade ago were slaves, with four million other people who were without education so long as slavery dwelt by their side; and they will find that a system of secular education has given a high average culture to the whole people of the United States, embracing a greater variety of elements than is elsewhere to be found in one country; that that education is progressing, as you will demonstrate by the historical sketches you will exhibit, as the educational systems of no other country have progressed; and they will find that, without a semblance of a state-church anywhere in the broad land, the people are more profoundly religious, without superstition, than any people in any country or any people living under one flag. [Applause.]

The coming Centennial is therefore to be a world-wide educator. But especially is it to be so to the American people. The first words that caught my ears as I entered this hall were "South Carolina and Massachusetts." They reminded me of that "bloody chasm" over which men recently spoke of shaking hands. The Centennial Celebration will obliterate from all but the historic page the fact that there has been a bloody chasm. There will meet in generous emulation they who met with equal bravery, willing to lay down life for an ideal theory upon which government should be based. The opening on the 19th of April will mark the opening event of the revolutionary war, the battle of Concord. There Massachusetts had her glory; but it was within the limits of the late southern confederacy that Cornwallis surrendered his sword and command to Washington, on the 19th of November, the day on which the Centennial Exposition will close. [Applause.] So that both the once temporarily-divided sections will have their glory marked by the opening and closing days of the exhibition. And they from New England and they from the sunny South, rambling from the exposition-grounds to the little cemetery in Germantown, may mingle their tears or their exultations at the grave of General Francis Nash, who led a full brigade from the colonies south of the Potomac, and died within a few feet of the spot where his honored remains now lie, while struggling for the freedom not alone of North Carolina, which he so grandly represented. The Centennial will come to us as a healing balm and revive the memories of our common heritage of glory. But it will educate us in other ways than this. Suppose I turn school-examiner, to illustrate how this event will educate us all, and put a few questions to you. Can any of you, ladies and gentlemen, tell me what are the four great industrial regions of the State of Alabama and define their limits? Who among you is prepared to answer and state the boundaries of the cotton, the timber, the grain, and the mineral regions of Alabama? With great respect for your attainments, I may be pardoned for saying that I do not believe any one is equal to the task. [Laughter.] It would be surprising if you were. Suppose I further ask you to tell me the location of those fields of chalcedony which glow and glisten upon the hills and valleys of Arkansas, and to tell me whether you believe the theory that they have been transmuted from the rough red sandstone by exposure through long ages to the chemical action of the water of the hot springs that have flowed over them? I do not believe many can give the location or give an enlightened theory of the chemical processes which have strewn these marvelous masses among the rude red sandstone that covers so large a field.

[Other similar suppositions were made to show to the members of the department that, after the Exposition has been held, every intelligent American will have, must have, a clearer, broader, higher perception of the great elements which are at the disposal of American genius. He will have also an idea of what American genius,

acting independently and following the thought of the world, expressed in machinery, is doing for the development and application of these natural gifts of Providence.]

Looking at the coming event in the light of such broad and suggestive facts and remembering that it is to be held in my native city, and so near to my own home that the lengthening shadow of the dome of the great edifice will probably rest upon my humble abode, you will, I believe, pardon the manifestation on my part of a considerable degree of enthusiasm. I marked with pleasure the fact that at the recent Vienna Exposition we won diplomas of honor for two things: your department, that of education, and the department of mechanism; the department of thought and that of culture, the departments which are to give man ascendancy over nature, to prolong life, to render it more agreeable, and to lift from the thews and sinews of labor its heaviest burdens. In these departments we must again excel. We can do it and we must do it.

In the departments of jewelry, of art, in all those departments which illustrate the age of nations, the accumulation of wealth, and the subordination of genius and labor to that wealth, we shall be excelled. But, while this will be so, the verdict may be taken as already recorded, that ours will be the most instructive of all the international exhibitions yet held. Permit me to offer a practical suggestion, not as to your system; I think you have brought it to wonderful perfection. This is to be an educational Exhibition; you reach the fathers, mothers, and children of this country. The grand office belongs to you of preparing the minds of vast numbers of people to participate in the instruction to be derived from the wonderful collection of art and nature that is to be gathered together. I trust that no one of you will fail to do his or her whole duty in that behalf. The boy of genius, the aspiring girl of twelve or fifteen years of age, who can spend a leisure-week or month in those halls, will there mark out a pure sphere of life which cannot fail to make him or her useful, which cannot fail to throw around them through all the future that great guerdon, a noble ambition, a desire to do something to distinguish their names and to benefit by their efforts their fellow men and women. That is a great advantage you have; and I do not make this appeal to you because such action may bring more people to Philadelphia, but because the concentrated influences of the world to be exhibited on that occasion will work a beneficent influence upon youth of both sexes, and thus not only bless the present age but all futurity. [Applause.]

The discussion of the resolutions was then taken up.

Prof. COMFORT thought the clause in respect to illiteracy was open to objection. The older States are States of very fair wealth; and those that are beginning for the first time, perhaps, to carry through a uniform system of education, are doing what perhaps they ought to have done thirty or forty years ago. If we introduce this clause, that the money shall go in proportion to illiteracy, we shall find "it is much harder to get the dog out of the house than to keep him out." I think it will be difficult to change the proviso. The amount of money given on that ground will be very small for many of the States, and that amount can easily be provided for in some other way. It seems to me to be too small an item to be considered in a national system. The sum which comes from the National Government will be a mere pittance compared to the entire revenues of the Government. For many States it will be exceedingly small; and, when divided among school-districts, it will almost disappear.

Mr. RUFFNER. As chairman of the committee, I should be willing to modify the resolution to meet the principal difficulty, which is, that, if

introduced, it might be hard to get rid of it hereafter. In the bill referred to, it is limited to five years; it then expires of its own limitation. And, inasmuch as it is favorably considered in Congress, perhaps it may be better to modify the resolution so as to limit the time.

Hon. J. K. JILLSON, State-superintendent of South Carolina. As a representative of the State of South Carolina, a State which is as sadly in need of aid as any State in the Union, I hope the resolution will pass as it stands, and that the proviso, which we recognize as just, will be retained, so that the proceeds of the public lands for at least five years shall be devoted to education and divided on the basis of illiteracy in the population above 10 years of age. The question of the diffusion of general education in the South is a problem somewhat difficult of solution, and one which creates a great deal of anxiety in the minds of those who really have the education of the people at heart. It seems to me that, if this bill passes, it should provide for giving the greatest amount of money to those States which need it most. There are States in the Union which are not in need of money. For instance, the State of Massachusetts, which probably stands as high as any, does not need this money. But I assure you, Mr. President and gentlemen, that the State of South Carolina needs all the aid it can get to develop its educational interest; and, in my humble opinion, the salvation of that State, as well as of other States in the South, depends upon the education of the people. I feel this at heart; for I feel that there is no hope for the State of South Carolina, except in the education of its people; and I sincerely hope that this convention will give such an expression, and in so forcible a manner, that it may have an influence upon the Congress of the United States, and induce it to pass a bill which will help those who are applying for help.

We must recollect one thing, that the original States have not had the benefit of the public lands, while in the newer States every sixteenth section of land was set apart for the benefit of education. I have yet to learn that the State of South Carolina has received a rood of the public lands for public schools. She has received her quota of the agricultural-land-scrip, but I think nothing for public schools.

Again, if you have read that valuable document, the Report of the Commissioner of Education, you have learned that many of the Southern States have a large amount of illiteracy. I believe we have an illiterate population of about 290,000. It seems to me we need some help down there. The people are very poor indeed.

You must also recollect that in our State we had no free-school-system before reconstruction. The city of Charleston had a well-organized and efficient system of public schools, but there were none in any other part of the State. We are just beginning now to lay our foundations. The people are poor; and, while they are awakening to an anxious and

hopeful interest in the matter of education, they are not able to do what they would like to do, by reason of poverty; and I presume it is somewhat familiar to some here that our financial management has not been a success, so that the State to-day cannot do what is needed. And I am here to appeal to the benevolent gentlemen of this department, and all wherever I can, and to implore all who have an interest in educational matters and an influence with the law-making branch of the General Government, to aid us in this matter.

We are not without hope; we hope, in the course of time, to develop a system and to stand as equals with the other States in the matter of education. I certainly hope that this resolution will be adopted. If there is any amendment that I could suggest to the resolution, it would be to recommend and to urge the passage of such a measure. I certainly hope you will pass the resolution.

MR. PHILBRICK. I hope so too. Coming from a State that has been alluded to as one which has liberally furnished means of education and which does not seem to be in immediate need of aid of this description, I have listened to the gentleman from South Carolina with great interest. But he is altogether too anxious on this point; it is not necessary to appeal to the beneficence of gentlemen here. Why, sir, it is for the interest of every State in our common country that every other State shall be equally well supplied with the means of education; and I am happy to know that a representative of Massachusetts has introduced this bill, and is so heroic in championing it through Congress.

You will remember that Daniel Webster, in answering Mr. Hayne, referred to the fact that, "shoulder to shoulder," Massachusetts and South Carolina contended through the struggles of the Revolution; and I trust that, in this great struggle for the conquest of ignorance, we shall stand "shoulder to shoulder" and "hand in hand" with Mr. Hoar in his effort to carry this through Congress. [Applause.]

Prof. COMFORT. In view of the limitation which appears to be in the bill, I will not urge my views at all; and I would like to express to the gentleman from South Carolina, what I am sure is the feeling of all here, the desire that the action begun in this matter may have the greatest success. But movements like this do not go forward very rapidly. The people cannot be educated in five years, nor in ten years. A new generation must come on; and if the gentleman sees his State in a condition of earnest activity, without the ten or twenty thousand dollars that may come from Congress, he will see within ten years a new generation of educated people. And I think our earnestness as educators should rather be to see what is planted, than to see the rapidity with which, for the moment, the movements of growth are carried forward.

At this time, as the Secretary of the Interior was about to withdraw, he briefly addressed the department as follows:

## REMARKS OF HON. C. DELANO, SECRETARY OF THE INTERIOR.

Mr. CHAIRMAN AND GENTLEMEN: I had the honor and pleasure to receive a visit yesterday from a delegation from this body. I then expressed in a few words the profound interest that I have always felt in this organization. I happened to be a member of the House of Representatives when the foundations of the Bureau of Education were laid. My interest in it has never decreased; and I have never felt its importance more than I have since I have seen, this year and previously, such a body of intelligent gentlemen at work for this cause.

I have only to say that I hope your deliberations will be so conducted as to furnish Congress, if they need it, such advice as will enable them to bestow the funds which they may appropriate in such places that they will do the most good. [Applause.]

The Secretary and governor then took leave.

The report of the committee on national aid to education was then adopted, with the several resolutions before given.

The department next listened to an address by Hon. J. D. Philbrick, of Boston, on

## SYSTEMS OF PUBLIC INSTRUCTION IN EUROPEAN AND AMERICAN CITIES COMPARED.

No doubt very encouraging progress has been made during the last few years in developing and improving the means of public instruction, both in the larger and smaller cities of this country. The courses of study for elementary schools have been improved by the introduction of additional branches of great practical utility, as well as by providing for a more judicious arrangement and limitation of the several subjects taught. School-architecture has received much attention, and vast sums have been expended by American cities during the past ten years, in erecting convenient, and even elegant, school-edifices. The salaries of teachers have been considerably advanced and training-schools for teachers have been established by many of the larger cities. In almost all our cities more or less provision has been made for secondary education in high schools for youth of both sexes.

But, however encouraging and meritorious the recent progress in the means of public instruction in our cities has been, it would be a great mistake to suppose that there is no further room for improvement or that our best city-systems have reached a completeness of development equal to what may be found in the cities of some foreign countries.

As many of the best existing elements in our systems of education have been borrowed from Germany, so Germany is still the country where Americans can study educational science and art to great advantage. Forty years ago it was universally acknowledged by the best judges that Prussia had the best system of education in the world. Since that time great advancement has been made in several other countries; but Prussia still maintains her pre-eminence as an educating State. In no other country is educational science so much cultivated or applied so thoroughly and systematically in the management of educational affairs.

As London is the world's center of commerce and trade and Paris the world's center of fashion and taste, so the city of Berlin is emphatically the world's center and capital of education and learning. But it will not be an easy matter for Berlin to maintain this acknowledged educational lead. A powerful rival has entered the lists to compete for the supremacy. That rival is the capital of the Austrian empire. The rapid progress of Vienna during the last twenty-five years in educational development is probably without a parallel.

Previous to the revolution of 1848, the insufficiency and imperfection of the educational institutions of Vienna afforded a striking contrast to the excellence of those of the Prussian capital. But since that event, and as a consequence of it, so extraordinary

has been the advancement in every line of progress, that at the present time, if not actually the first city in respect to the quality and universality of educational provisions, Vienna is certainly the first city in the world in point of interest and instructiveness for the student of education. To Americans this remarkable educational development in Vienna ought to be especially interesting and instructive, from the fact that the date of its beginning is very nearly the same as the date of the commencement of the movement for the reform and reorganization of our own city-systems of education.

The fruits of a thorough system of universal education are not yet so conspicuous in the population of Vienna as in the population of the most cultivated cities of Northern Germany, but the existing Viennese system of schools is in many respects in advance of what is elsewhere found.

The course pursued in bringing about this salutary change in so short a time is especially worthy of notice. Laying aside all religious and national prejudice, Catholic Vienna has not hesitated to appropriate the pedagogical ideas and methods of the Protestant cities of Northern Germany, and the crushing defeat of Sadowa only hastened and intensified the exertions of the Austrian government in the same direction.

It seems to me, therefore, that it would be profitable for us as American educators to see what can be learned from this example.

In the brief time allotted for this paper, I shall not undertake to present a complete analysis of the system for the purpose of comparing it with the typical American system, but only to point out some of the features wherein it appears to be most especially worthy of our consideration.

(1) *Provision for secondary education.*—There are scarcely any of our American cities which have more than one public school for that grade of instruction which occupies the place between the elementary school and the college, and which we call secondary or high-school-instruction. The two largest American cities have but one each, and those are for boys. The third in size has not even one. There are, perhaps, four or five, all told, of the larger cities of this country, which maintain from two to four or five high schools each, high in name at least, if not very high in the quality of the instruction given.

In the city of Vienna, whose population exceeds that of Philadelphia, but is considerably less than that of New York, there are sixteen public schools for secondary education. These schools consist of two classes or descriptions, namely, the *Gymnasias* and the *Real-schools*. In the former, the Latin and Greek languages constitute the basis of the course of instruction, which is designed as a preparation for the university. In the latter, natural science and the modern languages constitute the basis of the course of instruction, which is designed as a preparation for the polytechnic institute. Although the courses of these two descriptions of schools lead to two different kinds of institutions for superior education, they are both calculated to impart a high liberal culture and each is complete in itself.

There is no public high school in America, with the possible exception of the New York College, where the course of education is equal, either in extent or thoroughness, to that of a *Gymnasium* or a *Real-school* in Vienna. The teaching staff in these institutions is composed of professors who are more nearly on a par, in respect to learning and culture, with the professors in American colleges, than with the teachers of our high schools. In respect to knowledge of the science and art of education, they are quite superior to the average American college-professor. They have not only received a university-education, but they are also required to pass through a course of pedagogical training in the university-seminaries established for the purpose.

The courses of study in the *Gymnasium* and the *Real-school* alike extend over the period of eight years, the pupils entering at 10 or 11 years of age and graduating at 18 or 19.

In respect to equipment, including apparatus and libraries, they are vastly superior to the American high schools. In one of the youngest of these institutions, which is



not yet provided with a building for its use, the apparatus, none of which is for ostentation, but all for use, has cost 26,000 Gulden, a sum equivalent to more than the same number of dollars spent here. Several of the buildings which have been recently erected for the schools are quite superior to any high-school-edifice which has as yet been erected in this country. The tuition is not gratuitous, but it is very cheap, not exceeding fifteen dollars a year for such pupils as have the means to pay, while meritorious pupils who not able to pay this sum are provided for by charity-funds and in other ways.

But, after all, you may ask, are not these schools, with such comprehensive courses of study and such accomplished professors, small establishments? Far from it. Some of the largest have nearly thirty professors each and six or seven hundred pupils, the aggregate number of their professors being about 375 and the total number of their pupils being no less than 5,500. This number of boys and young men is at least equal to the whole number of boys receiving secondary education in the public high schools of the fifteen largest cities in America. Besides these public secondary schools, there are others which are denominational or private. The Protestants have a very large and excellent school for both sexes, although of a somewhat lower grade.

Such is the superiority of Vienna over American cities in one of the principal departments of public instruction.

(2) *Provisions for the normal training of teachers.*—The parent normal school in Vienna was established a hundred years ago by Maria Theresa. Within a few years this institution has been thoroughly reorganized and reformed, and others have been established, so that there are now in the city four normal schools, besides a training-school for Kindergarten-teachers. These institutions are normal schools in the true sense of the word, and not, like too many of the normal schools in this country, simply academic schools with the addition of a slender provision for the instruction of the graduating class in the theory and practice of teaching.

One of these schools for the professional training of teachers, which has recently been established and is called the Vienna Pedagogium, is quite unique in character. It is designed for the further improvement of graduates of the normal schools of the ordinary type and of teachers already engaged in the service of the city. No pupils are admitted who have not already received a graduating diploma from a normal school. The course of training extends through three years. For the purpose of attending this institution, teachers in the public schools may, on application to the city-government, be relieved, to a certain extent, from their ordinary duties.

The directorship is in the hands of one of the foremost pedagogists in Europe, who was called to the post from Northern Germany and induced to accept it by the most liberal offers in respect to salary and official privileges. A palatial structure has just been erected for its accommodation, at a cost which would exceed \$300,000 expended in this country. In this building there is an elementary school for boys and also one for girls, each having seven classes, which admirably serve the purpose, not only of practicing-schools for the teachers in training, but also as model schools for the observations of the teachers engaged in the elementary schools of the city, who are not pupils in the Pedagogium. In order to render them available for these purposes, the hours of their sessions are different from those of the other public schools, the rooms being furnished with gas light for the late afternoon-sessions of the winter-season. The classes of these model and practicing-schools are now taught by the best graduates of the Pedagogium, who are mostly young men, and a more accomplished corps of teachers I think I have never seen elsewhere in a public elementary school. They exhibited the most remarkable skill in the handling of their classes. This excellent institution has already exerted a powerful influence in elevating the character of the Vienna schools.

Thirty years ago, Horace Mann, in his Report on Foreign Education, in speaking of the increasing favor with which normal schools were regarded by the "great European family of nations, which claim to be called enlightened or civilized," stigmatizes Aus-

tria as "the one empire alone which had signalized its name by an opposite course;" and adds: "Austria, true to the base and cowardly instincts of ignorance and bigotry, disallows the establishment of a free normal school for the improvement of its people." No doubt such language was too strong. But since that time what a change has been brought about! This same Austria can now boast of provision for normal schools far beyond what has been furnished by the governments of the free States of our Republic. And the Austrian minister of public instruction might say, if he wished to draw a comparison between his own country and ours in respect to liberality in providing for the education of the people: "Behold republican America, with all its boastings about the intelligence of the people and the blessings of free institutions, neglecting the establishment of a single free normal school in its Capital for the improvement of the people, that institution which Mr. Mann said truly was one of the greatest of all modern instrumentalities for the improvement of the race, and then look at the normal school in our own capital."

(3) *Special schools.*—While it is of the first importance to make ample provision for general education in all its grades and departments, supplementary and special schools are needed to qualify persons of both sexes for the numerous professions, trades, and occupations by means of which they obtain a livelihood. In this respect American cities are far inferior to those of Germany. Vienna is especially conspicuous for the number, variety, and excellence of its special schools. At the head of these stands the government polytechnic school, one of the oldest and foremost in the world, with its 80 professors and 1,000 pupils. Below this in rank are numerous industrial schools of various descriptions and grades. There is a large number of schools for art and music. There is also a large number for female-handiwork. The commercial schools are especially noteworthy. At the head of the latter class stands the Handel's Academy, with its magnificent edifice, costing 230,000 Gulden, with its 43 professors and 1,000 students; a model establishment, in the true sense of the word. Besides this there are two public commercial colleges of a high character, with 50 instructors and over 2,000 pupils. And there are still others of a semi-public character. There are numerous excellent schools, with night and Sunday-sessions, for apprentices, and which apprentices must attend as a condition of receiving their licenses to engage in their respective handicrafts. There are schools for carpenters, schools for masons, schools for stone-cutters, schools for machinists, schools for weavers, and so on.

You, gentlemen, all know how very, very little has been as yet done in our American cities to provide this special and technical instruction in schools, either of the higher or lower grades. All this must be provided before we can claim equality in this respect with the city of Vienna or the cities of Germany, or Switzerland, or France.

(4) *Provision for physical education.*—For more than sixty years, gymnastic training has constituted a prominent element in Prussian school-education. Jahn, the great early promoter of physical training in Prussia, is now justly reckoned among the benefactors of his country; and, in recognition of the benefits of his labors, a noble statue has been erected to his honor in Berlin. In Berlin gymnastics have been longer and more generally cultivated, perhaps, than in any other city. In this city there has existed for a long time a large and well-appointed government-establishment for the training and preparation of teachers of gymnastics for the public schools. Although Vienna has been comparatively tardy in adopting this educational improvement, she now probably surpasses all other cities in respect to liberality of provision for gymnastics. In every recently-erected school-edifice, whether for elementary or secondary schools, the spacious and lofty gymnastic hall, with adjacent wardrobes and other accommodations, is provided. There are at present 110 special teachers of gymnastics constantly employed by the city in public schools. The educational authorities of Vienna are fully justified in their large expenditures for the physical training, in view of the acknowledged advantages which have been derived from it in Northern Germany.

In speaking of physical training in the German schools, Matthew Arnold says: "The

teachers (of gymnastics) profess to have adapted their exercises with precision to every age and to all stages of a boy's growth and muscular development. If boys have long work-hours or if they work hard, gymnastics probably do more for their physical health in the comparatively short time allotted to recreation than anything else could. In England the majority of public-school-boys work far less than the foreign school-boy, and for this majority the English games are delightful; but for the few hard students with us there is in general nothing but the 'constitutional,' and this is not so good as the foreign gymnastics."

In the German and Austrian schools, gymnastic training is not provided for boys alone. Girls also receive the benefit of regular physical exercises, especially adapted to the different stages of their muscular growth.

I have long been impressed with the lamentable defect of our city-systems of schools in respect to physical education. After seeing what has been done for this essential branch of education in Vienna and Berlin, our own deficiency in this respect seems tenfold more glaring. A radical reform is needed. Fourteen years ago I began my efforts to introduce into all grades of the Boston schools "a thorough system of physical training as a part of school-culture." Some progress has been made in this direction. For some years the programme has required daily physical exercises in the schools; but as yet our provisions for physical education are very inadequate. So far as I know, there is not a single special, thoroughly-qualified teacher of gymnastics employed by any city in America. To my mind nothing is more certain than that the highest success in intellectual education can be reached only by the aid of the most thorough system of physical training.

(5) *Provision for the care and education of children under school-age.*—Children are not required to attend school until they have reached the age of 6 years, and as a rule those below this age are not admitted. But in all large cities there are many children from 3 to 6 years of age, whose parents, from poverty and the necessity they are under to engage in labor away from their homes, are incapable of properly caring for them. To meet the wants of this class of children quite extensive provision has been made in Vienna. About forty years ago steps were taken, at first by individuals and subsequently by associations of public-spirited and benevolent persons, for the establishment of institutions called *Bewahranstalten*.

In these useful institutions young children are taken care of, amused, exercised, and appropriately taught during the day, from 8 o'clock in the morning until 5 in the afternoon, a wholesome meal being furnished them at noon. Recently Fröbel's system of Kindergarten-training has been introduced into a number of these infant-schools, and with one of them there is connected a normal department, for the training of Kindergarten-teachers. The number of these *Bewahranstalten* in Vienna is twenty, in which 3,000 children are daily cared for.

Recently the government has made provision regulating the establishment of Kindergärten and all institutions for the care of children under school-age, whether public or private. The character of the accommodations, as well as the qualifications of the managers and teachers, are prescribed by law, and it is expressly provided that no school-instruction, properly so called, shall be given in the schools to children under the school-age.

(6) *The harmonious adaptation of the parts of the system to each other and to the objects which they are designed to accomplish.*—The American primary school, where such a grade exists in our cities, has a distinctive, well-defined character. It has one simple, special object, namely, that of fitting pupils for admission to the grammar-school. There is, therefore, nothing undesirable in the relation of these two grades of schools to each other. In other respects, our American schools are not so well harmonized as could be desired. The grammar-school has to perform three different functions, not in harmony with each other. It is expected to adapt its instruction to the needs of those pupils who drop out at the different stages of the course, and for this purpose it must make its instruction as complete a whole as possible at each step in the course; secondly,

it must serve as a finishing-school for the mass of pupils who wish to acquire a good elementary education, but cannot go beyond it; and, thirdly, it must answer the purpose of a preparatory school for candidates for the high school. Now, to do the best thing for the pupils who are to remain in the school only a year or two, it is necessary to do what is not best for those who are to remain through the whole course, and *vice versa*. Again, to do the best thing for the pupils who are not to go beyond the elementary course is not to do the best thing for those who are to pass through the high-school-grade. If we go to the high school, we find there, also, incompatible functions required. By a multiplication of courses, it must try to meet the wants of both sexes, the wants of candidates for college, and the wants of the candidates for the technical school, while at the same time it is to serve the purpose of a finishing-school for pupils destined for commercial and practical business-careers. From this lack of harmony and adaptation, comes a great loss of time on the part of pupils and teachers.

In Vienna the co-ordination of the schools is more perfect. There are two descriptions of elementary schools, namely, the *Volks* and the *Bürger*. Both receive pupils at the age when obligatory attendance begins and both retain them during the continuance of the obligatory period of schooling. The *Volks*-school is a finishing-school; that is, it is not designed to fit its pupils for a school of a higher grade, but is complete in itself; and, as attendance during its whole course is compulsory, there are no pupils prematurely leaving to be provided for. Hence its function is as simple and definite as is that of our primary school.

The same may be said of the *Bürger*-school, the first half of its course being substantially the same as that of the first four years of the *Volks*-school and the last half corresponding to the first four years of the *Real*-school. The graduate of the *Bürger*-school can therefore enter the fifth class of the *Real*-school; or, if he terminates his day-schooling at this stage and enters upon an apprenticeship, he attends an industrial school, where practical instruction is given by accomplished professors on week-day-evenings and Sunday-mornings. The graduate of the *Volks*-school in like manner, after graduation, is expected to attend, for some time, either the industrial school, or an evening-school of another kind, designed to supplement and strengthen the instruction already received.

If we go to the middle schools—namely, the *Gymnasias* and *Real*-schools—we find the same harmonious completeness of arrangements. We have seen that, during the first four years of the child's schooling, in both the *Bürger*- and *Volks*-schools, the course is the same. This is all that is required for admission to the middle schools. Boys who enter these schools at 10 or 11 years of age are found, at 14 or 15 years of age, vastly in advance of the boys of the same age who are just passing from the grammar-schools to the high schools in our cities. This superior progress is owing to two causes: first, that the instruction is given by capable professors, who employ good methods, and, secondly, that the aim is simple and direct, the pupils being treated, not with reference to several different destinations, but only with reference to the completion of the course of the institution, which is in itself a harmonious and complete whole. Again, the middle schools on the one hand and the high schools on the other—namely, the university and the polytechnic, the agricultural and the commercial, and the military high schools—are carefully adapted to each other. The candidate holding the graduating-certificate of the *Real*-school is entitled to admission to either of the four last-named high schools, while the graduate of the *Gymnasium* is admitted to the university, the commercial and agricultural high schools without further examination, and to the polytechnic school after some further preparation in free-hand-drawing and in geometry.

This harmonious completeness of the organization and arrangement of the different grades of schools affords, it seems to me, an instructive example for our study and consideration.

(7) *School-architecture*.—Within the last few years in many American cities, both large and small, money has been expended freely for the erection of school-houses, both for

the elementary and the higher grades; and in respect to school-furniture there is no country which can bear a comparison with our own. But in many important elements of school-architecture we are now greatly surpassed by both Northern and Southern Germany. The best school-edifices within my knowledge are in Vienna, and probably the day is very distant when any American city will be able to boast of a school-edifice equal to that of the Academic Gymnasium in that city. German pedagogists have arrived, after many years of experiments and observation, at a plan for school-rooms which is supposed to combine the desirable qualities in the highest possible degree; the shape of the room is oblong, the windows being on one side only, and that, at the left of the pupils as seated and extending to the ceiling of the room. The teacher's platform extends entirely across one end.

In all the leading cities of Germany all the school-rooms in the recently-erected school-edifices have been constructed in accordance with this plan. The new buildings in Vienna combine in the highest degree the requisites of taste, convenience, health, and safety. They are more costly than the American school-houses, for the reason that they are constructed with a view to greater durability, and are substantially fire-proof, all the steps being made of stone, the corridors being laid with marble tiles, or with concrete as durable as marble and even more beautiful. The walls are very thick, and the plastering is laid on without laths or furring, and is afterward colored with a mellow tint.

The excellence of these buildings, both in a pedagogical and architectural point of view, is owing to the fact that they have been designed under the combined direction of the highest official architects and pedagogists, who possess the highest existing qualifications for this service. Almost everything done in America in the way of building school-houses is done in a hap-hazard manner. So the greater portion of American school-houses, costly as they have been and of pretentious architectural style, as some of them are, are dangerous fire-traps, with wretched ventilation and with lighting which disregards the physiology of vision. They are too frequently mere architectural botches, standing as the monuments of bad carpentry and bad masonry, and embodying the ignorance and whims of the builders. This is the truth in general about our city-school-houses as compared with the modern German school-architecture. Exception should be made perhaps in regard to some of our best buildings. What is especially needed now for the improvement of American school-architecture is a publication on the subject, giving the plans and descriptions of the best German school-edifices.

(8) *Provision for art-education.*—So little of the nature and value of art-education is known in this country that there is probably scarcely a single city where anything like adequate provision has been made even for the teaching of the elements of drawing in the common schools. Specimens of scholars' work in drawing, both from elementary and the high schools, were sent to the Exposition from several American cities, but all these specimens together were quite insignificant when placed by the side of the productions exhibited by a single elementary public school in Vienna. In that city drawing, both free-hand and geometrical, is systematically taught in all the Bürger- and Volks-schools, and each Real-school has usually at least four large rooms for drawing, and as many accomplished professors in this department. There are numerous special schools for drawing and teaching industrial art in its various applications. At the head of this department of instruction stands the academy of fine arts for painting and sculpture and the industrial-art-school, connected with the museum for art and industry, with three departments, namely, for architectural design, modeling and sculpture, and drawing and painting. The latter is a new and magnificent institution, for which a building has been erected and equipped at a cost of about three-quarters of a million dollars.

The same building accommodates, at present, the museum and the art-school, but already this large edifice is found to be inadequate for both, and another building is to be speedily erected for the sole use of the art-school. The results of these liberal pro-

visions for art-culture were very conspicuous in the industrial products of Austria exhibited in the World's Fair.

(9) *The employment of male teachers.*—It is well known that on the continent of Europe women are employed as teachers in the public schools only to a very limited extent. In Austria the ability of women as teachers seems to be more highly appreciated than in Northern Germany, and hence provision for the normal training of women has been made on a more liberal scale. Still the vast majority of the teachers in the public schools of Vienna are men. Most American educators would probably agree that the German schools would be all the better for the employment of a larger proportion of well-trained woman teachers; but, on the other hand, German pedagogists are quite confident that American schools would be better if a larger proportion of their teachers were men.

When Mr. Mann recommended the employment of a larger proportion of woman teachers in Massachusetts, there were only three women to two men engaged as teachers in the public schools of the State. Since that time, so great has been the change in this respect that there are now in the same State seven woman teachers to one man teacher. It is evident that the time has arrived when it is necessary to consider seriously the question where the substitution of women for men in the work of education ought to stop.

(10) *Conclusion.*—I have thus presented for your consideration a few of the most obvious points of comparison between European and American city-systems of public instruction. I am fully convinced that it would be unwise for us to copy in all its parts any foreign system of city-schools; but, at the same time, I am deeply impressed with the importance of endeavoring to improve our American systems by introducing such modifications as have been suggested in the points I have here presented.

Hon. M. B. HOPKINS inquired whether the schools referred to by Mr. Philbrick had any text-books; and, if so, inasmuch as the recitations are conducted without text-books, what use is made of them.

Mr. PHILBRICK. In the elementary schools they use a few text-books, and very few. For instance, they have no such thing as a great book of geography, that the children have to go through with. The children are provided with an atlas, but the atlases are not all of the same kind. And in making atlases, Germany is greatly ahead of us. They have four large maps in the school: a map of Palestine, a map of their province, a map of their country, and a map of Europe, and, possibly, in the higher school, a map of the world. The teacher uses the maps for teaching geography, and they occupy less time than we do. So in arithmetic: I never saw any children using a book such as we call a text-book. They have a little pamphlet, to be used as a book of reference. Arithmetic is taught right off; the children are not kept till they are 14 years old before they study it.

Hon. B. G. NORTHROP. I could name more than a dozen points in which, in my judgment, our schools are superior to those of Europe, and more than twice a dozen in which theirs are superior to ours. But I agree that we ought to consider our deficiencies first. With reference to the blackboard, the conviction is fixed in my mind that our plan is better than the German. The teacher there can step to the blackboard and do his work very dexterously, and the scholars can follow him in his drawing; but, in my judgment, it is far better for pupils to go to the blackboard,

in connection with a lesson in geography, and draw, from memory, the outlines of the countries they are studying. For each pupil to draw a map from memory, quickly, every day, is far better than to have the work done by the teacher.

Another point should be kept in mind, when the announcement is made that there are 3,500 pupils in the Gymnasias and Real-schools of Vienna: they are admitted there at an age so young that we should not compare them with the number in our high schools. But they go more thoroughly into things, because they begin earlier. They start their children in classical instruction very early. But probably we in America, taking the country at large, are giving a larger proportion of collegiate instruction than is given in Austria.

While I agree in the statement in regard to the magnificent school-structures, it is well to consider that these are the comparatively few good houses which are the pets of the government. They determined to have some splendid models, and they are grand. But when you go into the rural districts you find a great contrast.

Prof. COMFORT. Having had an opportunity of spending five years in studying, as carefully as I could, the institutions there, I came to the same conclusion that the author of the paper [Mr. Philbrick] did: that in many points they were in advance of us. The conviction is prevalent there that the students should attend to one course up to about the age of 13 or 14; and one of the disadvantages of the German system is that the government imposes the system upon all the schools. I think, too, that they commit a very serious error in not opening their Real-schools and Gymnasias to girls as well as to boys. In that respect I think Germany is far behind America.

Prof. CLARK, of Howard University, Washington, thought one great disadvantage in our common-school-system to be the want of proper and thorough supervision; and this could be had only by the appointment of men to this duty who are competent and who are paid for their services.

#### STATISTICAL FORMS.

Hon. T. W. HARVEY, State-commissioner of Ohio, from the committee on statistical forms, reported that, having made some progress in the consideration of the subject, they found it too important to permit them to come to a conclusion, and asked leave to be continued, with the hope that they may be able to present a satisfactory report to the department at its meeting in August next.

The report was accepted and leave to continue was granted.

#### THE GOVERNMENT AND EDUCATION.

The committee on the relations of the General Government to education in the District of Columbia, through the chairman, Mr. Wickersham, reported as follows:

(1) That, by reason of the location of the National Government in this District and its exclusive jurisdiction, its population is made up in great part of citizens of the several States who are in Government-employ, very few of whom are tax-payers, and consequently contribute nothing to the support of the schools. It will be found, upon examination, that fully one-third of the children educated in the public schools of the District are the children of such Government-employés.

(2) That the District of Columbia has never received a dollar of Government-aid, either in money or land, for educational purposes.

(3) The people of the District, tax-payers, have been liberal in their contributions, and have shown the most laudable efforts to help themselves, and have, of their own resources, brought their schools and buildings to a very creditable standard.

(4) That Congress has adopted a most liberal policy of aid to education in the different States and Territories of the Union.

(5) That since the war there has been a great influx of colored people from the South, all of these requiring education; yet few of them are tax-payers.

(6) That the citizens of all parts of the country cannot fail to feel a deep interest in the character of the educational institutions at the capital, where the representatives of all nations reside: Therefore,

*Resolved*, That, in the opinion of the convention, it is the duty of Congress to furnish special aid to the school-authorities, establishing and suggesting and supporting a system of public education in the District of Columbia.

The report was adopted.

The secretary was instructed to furnish a copy of these resolutions to the Committees on Education and Labor of the Senate and House of Representatives; also to furnish copies of the resolutions on national aid to education to the same committees.

Mr. WICKERSHAM moved that the Commissioner of Education be requested to publish the proceedings of the meeting in his next Circular of Information.

This was seconded by Mr. RICKOFF, who thought it a matter of great importance, and the motion was adopted.

General EATON stated that Dr. Gallaudet, of the deaf-mute-college, had been present during the session and would have said something, but was unable to do so, owing to the pressure of business of the association. He said that Dr. Gallaudet had requested him to tender an invitation to the members of the department to visit the deaf-mute college, at their convenience, while in the city. The invitation was accepted, with thanks.

#### REMARKS OF GENERAL EATON.

As the exercises of the department were about drawing to a close, General Eaton said:

Before our adjournment, allow me to say one word. I cannot express to you the very great satisfaction I have had in this meeting of your department and in having put forth in these various forms, directly and privately, your suggestions bearing on the work that we are all trying to do, particularly in regard to the part committed to me. For here, when you are thinking of these matters in a national aspect, you are thinking and acting as we do in the Office, having great generalizations before you with innumerable details. There is one interesting fact just handed to me by the gentleman who has charge of the statistics in the Office, and which perhaps you will



like to have mentioned, that, although you are not a very large body, you represent here educational supervision having under your charge 6,039,917 pupils.\*

I wish to say, further, that, as the gentlemen will, at adjournment, break up as an organized body, I desire very much to see any who may have time to call at the Office and talk about their own fields of labor or about the general work at the Office.

Mr. WICKERSHAM moved that the arrangements for the August meeting be left in the hands of General Eaton.

Adopted.

The committee on resolutions, through the chairman, Mr. Parish, submitted the following:

The department of superintendents of schools assembled desire to recognize the co-operation and aid rendered during their present session, and to this end offer the following resolution:

*Resolved*, That this association return its cordial thanks to the authorities of the District of Columbia, for the use of the hall of the house of delegates for their several sessions; to the board of education and the superintendent of schools of the city of Washington, for the deep interest they have manifested in making arrangements for the convenience and successful accomplishment of the work before the association; to the officers in charge of the Corcoran Art-Gallery, for free admission to examine the exquisite specimens of paintings and statuary which have been liberally provided by one of the citizens of the city; to the proprietors of the Metropolitan Hotel, for their liberal terms and the excellent provision they made for the members of the association who have been their guests during the session; to President A. D. White, for his very valuable and instructive address; to Mr. Philbrick, also, for his excellent address giving a comparative view of the schools of Europe and the United States; to the United States Commissioner of Education, Hon. John Eaton, for his universal attention in promoting the interests of the association during the sessions; to J. H. Binford, president, and A. P. Marble, secretary, for their able services in the discharge of their duties.

Adopted.

Mr. Marble offered the following:

*Resolved*, That the thanks of this convention be cordially tendered to the daily papers of this city, for their very full and accurate reports of our proceedings; and we desire to recognize the press, when thus liberally conducted, as an essential ally in all educational progress and reform.

Adopted.

President Binford then returned thanks to the members of the convention; when it adjourned, to meet in August, at Detroit, Michigan.

The delegates then formed in line and proceeded, by special invitation, to the residence of Governor Shepherd, where they were hospitably entertained.

\* School-population represented in the convention.

Connecticut .....	131, 748	Rhode Island .....	42, 000
Indiana .....	631, 549	South Carolina .....	230, 102
Maryland .....	276, 120	Virginia .....	424, 107
Massachusetts .....	287, 080	West Virginia .....	166, 749
New Hampshire .....	73, 554	District of Columbia .....	31, 671
New York .....	1, 521, 933		
Ohio .....	1, 073, 274	Total, twelve States and District of	
Pennsylvania .....	1, 200, 000	Columbia .....	6, 089, 917

## APPENDIX A.

## ARRANGEMENT OF REPORTS.

In connection with the subject of the unification of statistical returns, it may not be amiss to mention that, at the National Bureau of Education, the order of arrangement in the abstracts of educational matters from the different States is substantially that which is common throughout Europe; that is, things relating to primary, secondary, superior, professional and scientific, and special instruction are attended to in regular succession, where the material for such arrangement is supplied, the primary division embracing all below high schools and classical academies; the secondary taking in high schools, classical academies, and other institutions above the grammar-schools, but below the rank of colleges; the superior, relating to colleges and universities; the professional and scientific, to theological, medical, law, and scientific schools, inclusive of the agricultural colleges; and the special, to schools for orphans, for the deaf mute, the blind, the idiotic, the subjects for reformatory training, and others not reducible to the first four classes named.

Of course it is not for the Bureau to prescribe that its mode of arrangement shall prevail; nor is it disposed to even recommend that such shall be the case. But those connected with the preparation of reports may see that some conformity to this arrangement would not only facilitate comparison but also tend to bring our educational statistics into a correspondence with the European ones.

## APPENDIX B.

The portions of the Centennial Programme which seem especially to claim attention from schools, teachers, superintendents, heads of colleges, and educational journalists are the following:

## DEPARTMENT VII.

## APPARATUS AND METHODS FOR THE INCREASE AND DIFFUSION OF KNOWLEDGE.

## GROUP 70.

## EDUCATIONAL APPARATUS AND METHODS.

CLASS 700.—OBJECTS FOR THE INSTRUCTION AND AMUSEMENT OF THE YOUNG.

CLASS 701.—SCHOOL-FURNITURE AND FITTINGS.

CLASS 702.—SCHOOL-APPARATUS, for experiment and illustration.

CLASS 703.—TABULAR GRAPHIC REPRESENTATIONS, wall-maps, charts, &c.

CLASS 704.—MODELS, RELIEF-MAPS.

CLASS 705.—DRAWING-BOOKS, and instruments and systems of instruction in drawing.

CLASS 706.—WRITING-BOOKS, and systems of instruction in writing.

CLASS 707.—MODELS, CASTS, AND CARVINGS, serving as objects for free-hand-drawing.

CLASS 708.—COURSES AND METHODS OF EXAMINATION.

CLASS 709.—SCHOOL-DISCIPLINE AND MILITARY TRAINING IN SCHOOLS. Sanitary regulations of school-buildings.

## GROUP 71.

## TYPOGRAPHIC AIDS TO THE PRESERVATION AND DISSEMINATION OF KNOWLEDGE.

CLASS 710.—SCHOOL- AND TEXT-BOOKS.

CLASS 711.—DICTIONARIES, ENCYCLOPEDIAS, GAZETTEERS, DIRECTORIES, INDEX-VOLUMES, BIBLIOGRAPHIC CATALOGUES, ALMANACS.

**CLASS 712.—SPECIAL TREATISES**, under which head may, of course, be included works on education or any of its departments.

**CLASS 715.—TECHNICAL AND SPECIAL NEWSPAPERS AND JOURNALS**, [under which should come copies of all our educational journals.]

#### GROUP 72.

##### CHARTS, MAPS, AND GRAPHIC REPRESENTATIONS.

**CLASS 720.—TOPOGRAPHIC MAPS.**

**CLASS 721.—MARINE- AND COAST-CHARTS**, profiles of ocean-bed between specified points.

**CLASS 722.—GEOLOGICAL MAPS AND SECTIONS.**

**CLASS 723.—BOTANICAL, AGRONOMICAL, AND OTHER MAPS**, showing the extent and distribution of men, animals, and terrestrial products. Physical maps.

**CLASS 724.—METEOROLOGICAL MAPS AND BULLETINS, MAGNETICAL MAPS, and other graphic representations.**

**CLASS 727.—TERRESTRIAL AND CELESTIAL GLOBES.**

**CLASS 728.—RELIEF-MAPS, AND MODELS OF PORTIONS OF THE EARTH'S SURFACE.**

---

### DEPARTMENT VIII.

#### ENGINEERING, PUBLIC WORKS, ARCHITECTURE, ETC.

##### GROUP 80.

##### AGRICULTURAL ENGINEERING.

[This group deserves especial notice from the agricultural colleges.]

**CLASS 800.—LAYING OUT FARMS, CONSTRUCTION OF ROADS, draining, irrigating, and construction of farm-buildings.**

**CLASS 801.—PREPARATION OF THE GROUND AND PLANTING.**

**CLASS 802.—CULTIVATION, &c.**

**CLASS 803.—HARVESTING.**

**CLASS 804.—CLEANING, PREPARING, PACKING, AND PRESERVATION OF CROPS.**

**CLASS 805.—FARM-TRANSPORTATION.**

**CLASS 806.—TREATMENT OF THE SOIL.**—Improvement, preservation, restoration, and increase of its productive capacity. Use of fertilizers.

**CLASS 807.—REARING, CARE, AND MANAGEMENT OF STOCK.**

**CLASS 809.—FARM-SUPERINTENDENCE AND MANAGEMENT.**

##### GROUP 81.

##### MINING ENGINEERING.

[This and the four following groups are commended to the attention of schools of science, scientific departments of colleges, and polytechnic institutes.]

**CLASS 810.—SURFACE AND UNDERGROUND-SURVEYING AND PLOTTING.**—Projection of underground-work, location of shafts, tunnels, &c.; surveys for aqueducts and for drainage.

**CLASS 811.—BORING AND DRILLING ROCKS, SHAFTS, AND TUNNELS.**—Borings for water, oil, or other substances, and for ascertaining the nature and extent of mineral deposits.

**CLASS 812.—CONSTRUCTION, SINKING, AND LINING SHAFTS**, by various methods; driving and timbering tunnels, and the general operations of opening, stoping, and breaking down ore; timbering, logging, and masonry.

- CLASS 813.—HOISTING AND DELIVERING AT THE SURFACE ROCK, ORE, OR MINERS.  
 CLASS 814.—PUMPING AND DRAINING, by engines, buckets, or by adits.  
 CLASS 815.—VENTILATION, LIGHTING, &C.  
 CLASS 816.—SUBAQUEOUS MINING, BLASTING, &C.  
 CLASS 817.—HYDRAULIC MINING, and the various processes and methods of sluicing and washing auriferous gravels and other superficial deposits.  
 CLASS 818.—QUARRYING.

GROUP 82.

CIVIL ENGINEERING.

- CLASS 820.—CONSTRUCTION AND MAINTENANCE OF ROADS, STREET-PAVEMENTS, &C.  
 CLASS 821.—SURVEYS AND LOCATION OF TOWNS AND CITIES, with systems of water-supply and drainage.  
 CLASS 822.—BRIDGES OF STONE, BRICK, OR BÉTON.  
 CLASS 823.—IRON AND STEEL BRIDGES.  
 CLASS 824.—SUSPENSION-BRIDGES.  
 CLASS 825.—CANALS, AQUEDUCTS, RESERVOIRS, CONSTRUCTION OF DAMS, &C. Hydraulic engineering, and means for arresting and controlling flow of water; water-supply.

GROUP 83.

DYNAMIC AND INDUSTRIAL ENGINEERING.

GROUP 84.

RAILWAY-ENGINEERING.

GROUP 85.

PUBLIC WORKS AND ARCHITECTURE.

GROUP 88.

MILITARY ENGINEERING.

[May be looked after by the West Point Academy, as well as by the Engineer Corps of the Army.]

GROUP 89.

NAVAL ENGINEERING.

[May be noticed by the Naval Academy at Annapolis.]

---

DEPARTMENT IX.

PLASTIC AND GRAPHIC ARTS.

[Art-schools, as well as artists, should look after these.]

GROUP 90.

SCULPTURE.

GROUP 91.

PAINTING.

CLASS 712.—SPECIAL TREATISES, under which head may, of course, be included works on education or any of its departments.

CLASS 715.—TECHNICAL AND SPECIAL NEWSPAPERS AND JOURNALS, [under which should come copies of all our educational journals.]

#### GROUP 72.

##### CHARTS, MAPS, AND GRAPHIC REPRESENTATIONS.

CLASS 720.—TOPOGRAPHIC MAPS.

CLASS 721.—MARINE- AND COAST-CHARTS, profiles of ocean-bed between specified points.

CLASS 722.—GEOLOGICAL MAPS AND SECTIONS.

CLASS 723.—BOTANICAL, AGRONOMICAL, AND OTHER MAPS, showing the extent and distribution of men, animals, and terrestrial products. Physical maps.

CLASS 724.—METEOROLOGICAL MAPS AND BULLETINS, MAGNETICAL MAPS, and other graphic representations.

CLASS 727.—TERRESTRIAL AND CELESTIAL GLOBES.

CLASS 728.—RELIEF-MAPS, AND MODELS OF PORTIONS OF THE EARTH'S SURFACE.

### DEPARTMENT VIII.

#### ENGINEERING, PUBLIC WORKS, ARCHITECTURE, ETC.

##### GROUP 80.

##### AGRICULTURAL ENGINEERING.

[This group deserves especial notice from the agricultural colleges.]

CLASS 800.—LAYING OUT FARMS, CONSTRUCTION OF ROADS, draining, irrigating, and construction of farm-buildings.

CLASS 801.—PREPARATION OF THE GROUND AND PLANTING.

CLASS 802.—CULTIVATION, &C.

CLASS 803.—HARVESTING.

CLASS 804.—CLEANING, PREPARING, PACKING, AND PRESERVATION OF CROPS.

CLASS 805.—FARM-TRANSPORTATION.

CLASS 806.—TREATMENT OF THE SOIL.—Improvement, preservation, restoration, and increase of its productive capacity. Use of fertilizers.

CLASS 807.—REARING, CARE, AND MANAGEMENT OF STOCK.

CLASS 809.—FARM-SUPERINTENDENCE AND MANAGEMENT.

##### GROUP 81.

##### MINING ENGINEERING.

[This and the four following groups are commended to the attention of schools of science, scientific departments of colleges, and polytechnic institutes.]

CLASS 810.—SURFACE AND UNDERGROUND-SURVEYING AND PLOTTING.—Projection of underground-work, location of shafts, tunnels, &c.; surveys for aqueducts and for drainage.

CLASS 811.—BORING AND DRILLING ROCKS, SHAFTS, AND TUNNELS.—Borings for water, oil, or other substances, and for ascertaining the nature and extent of mineral deposits.

CLASS 812.—CONSTRUCTION, SINKING, AND LINING SHAFTS, by various methods; driving and timbering tunnels, and the general operations of opening, stoping, and breaking down ore; timbering, logging, and masonry.

- CLASS 813.—HOISTING AND DELIVERING AT THE SURFACE ROCK, ORE, OR MINERS.  
 CLASS 814.—PUMPING AND DRAINING, by engines, buckets, or by adits.  
 CLASS 815.—VENTILATION, LIGHTING, &C.  
 CLASS 816.—SUBAQUEOUS MINING, BLASTING, &C.  
 CLASS 817.—HYDRAULIC MINING, and the various processes and methods of sluicing and washing auriferous gravels and other superficial deposits.  
 CLASS 818.—QUARRYING.

GROUP 82.

CIVIL ENGINEERING.

- CLASS 820.—CONSTRUCTION AND MAINTENANCE OF ROADS, STREET-PAVEMENTS, &C.  
 CLASS 821.—SURVEYS AND LOCATION OF TOWNS AND CITIES, with systems of water-supply and drainage.  
 CLASS 822.—BRIDGES OF STONE, BRICK, OR BÉTON.  
 CLASS 823.—IRON AND STEEL BRIDGES.  
 CLASS 824.—SUSPENSION-BRIDGES.  
 CLASS 825.—CANALS, AQUEDUCTS, RESERVOIRS, CONSTRUCTION OF DAMS, &C. Hydraulic engineering, and means for arresting and controlling flow of water; water-supply.

GROUP 83.

DYNAMIC AND INDUSTRIAL ENGINEERING.

GROUP 84.

RAILWAY-ENGINEERING.

GROUP 85.

PUBLIC WORKS AND ARCHITECTURE.

GROUP 88.

MILITARY ENGINEERING.

[May be looked after by the West Point Academy, as well as by the Engineer Corps of the Army.]

GROUP 89.

NAVAL ENGINEERING.

[May be noticed by the Naval Academy at Annapolis.]

---

DEPARTMENT IX.

PLASTIC AND GRAPHIC ARTS.

[Art-schools, as well as artists, should look after these.]

GROUP 90.

SCULPTURE.

GROUP 91.

PAINTING.

## GROUP 92.

LINE-DRAWING, ENGRAVING, AND DIE-SINKING.

## GROUP 93.

CHROMO-LITHOGRAPHY AND LITHOGRAPHY.

## GROUP 94.

PHOTOGRAPHY.

CLASS 940.—LANDSCAPE-PHOTOGRAPHS.

CLASS 941.—ARCHITECTURAL.

CLASS 942.—FROM ANIMATE OBJECTS—PORTRAITS.

CLASS 943.—PHOTO-RELIEF-PLATES, ALBERTYPES, WOODBURY-TYPES, HELIOTYPES, &amp;C.

CLASS 944.—REPRODUCTIONS OF ENGRAVINGS, PAINTINGS, DESIGNS, AND DRAWINGS.

CLASS 945.—BAS-RELIEFS, METAL ORNAMENTS, SHELLS, AND SMALL OBJECTS IN RELIEF particularly of fossils and "natural-history" specimens.

[Under the first two of these heads would come appropriately representations of school- and college-buildings, with the surrounding scenery; under the third, photographic sketches of assembled schools, portraits of teachers, superintendents, and college-presidents and professors.]

## GROUP 95.

INDUSTRIAL DESIGNS.

## GROUP 97.

ARCHITECTURAL DESIGNS AND MODELS.

[In this group it would be desirable to have models of some of our best school-buildings, so formed that their interior arrangements and furniture may be inspected.]

## DEPARTMENT X.

SYSTEMS, OBJECTS, AND APPARATUS ILLUSTRATING EFFORTS FOR THE IMPROVEMENT OF THE PHYSICAL, INTELLECTUAL, AND MORAL CONDITION OF MAN.

[Under group 101 here, relating to "sanitary" matters, are included "asylums;" under group 103, "government and law" and "reform-schools."]

## GROUP 104.

RELIGIOUS ORGANIZATIONS AND SYSTEMS.

CLASS 1044.—SYSTEMS AND METHODS OF RELIGIOUS INSTRUCTION AND TRAINING FOR THE YOUNG.—\* \* \* SUNDAY-SCHOOL-FURNITURE AND APPARATUS.

## GROUP 105.

EDUCATION.

CLASS 1050.—PRIMARY EDUCATION; INFANT-SCHOOLS [AND KINDERGÄRTEN.]

CLASS 1051.—PUBLIC-SCHOOL-SYSTEMS.

CLASS 1052.—SPECIAL SCHOOLS OF SCIENCE, LAW, MEDICINE, AND THEOLOGY.

CLASS 1053.—UNIVERSITY-EDUCATION.

CLASS 1054.—TECHNICAL EDUCATION.—Institutes of technology.

CLASS 1055.—ART-SCHOOLS, CLASSES, AND INSTRUCTION.

CLASS 1056.—INSTRUCTION BY LECTURES.

CLASS 1057.—LIBRARIES.

CLASS 1058.—EDUCATION OF THE ABNORMALLY DEVELOPED.

CLASS 1059.—GOVERNMENT-AID TO THE CAUSE OF EDUCATION.—Mechanic arts and agricultural colleges.

## GROUP 106.

INSTITUTIONS, SOCIETIES, AND ORGANIZATIONS HAVING FOR THEIR OBJECT THE PROMOTION OF SCIENCE.

CLASS 1061.—ASTRONOMICAL SOCIETIES AND ASTRONOMICAL OBSERVATORIES.

CLASS 1062.—GEOLOGICAL AND MINERALOGICAL SOCIETIES; [ACADEMIES OF NATURAL SCIENCE.]

CLASS 1063.—BIOLOGICAL, ZOÖLOGICAL, MEDICAL, ETC.

CLASS 1064.—PHILOLOGICAL.

CLASS 1065.—ETHNOLOGICAL AND SOCIOLOGICAL.

CLASS 1066.—ARCHÆOLOGICAL AND HISTORICAL.

CLASS 1068.—COLLECTIONS AND MUSEUMS ILLUSTRATING THE PROGRESS OF SCIENCE.

CLASS 1069.—INSTITUTIONS AND ASSOCIATIONS FOUNDED FOR THE INCREASE AND DIFFUSION OF KNOWLEDGE, such as the Smithsonian Institution, \* \* \* Franklin Institute, Academy of Natural Science, the American Association, &c.; their organization, history, and results.





## APPENDIX A.

## ARRANGEMENT OF REPORTS.

In connection with the subject of the unification of statistical returns, it may not be amiss to mention that, at the National Bureau of Education, the order of arrangement in the abstracts of educational matters from the different States is substantially that which is common throughout Europe; that is, things relating to primary, secondary, superior, professional and scientific, and special instruction are attended to in regular succession, where the material for such arrangement is supplied, the primary division embracing all below high schools and classical academies; the secondary taking in high schools, classical academies, and other institutions above the grammar-schools, but below the rank of colleges; the superior, relating to colleges and universities; the professional and scientific, to theological, medical, law, and scientific schools, inclusive of the agricultural colleges; and the special, to schools for orphans, for the deaf mute, the blind, the idiotic, the subjects for reformatory training, and others not reducible to the first four classes named.

Of course it is not for the Bureau to prescribe that its mode of arrangement shall prevail; nor is it disposed to even recommend that such shall be the case. But those connected with the preparation of reports may see that some conformity to this arrangement would not only facilitate comparison but also tend to bring our educational statistics into a correspondence with the European ones.

## APPENDIX B.

The portions of the Centennial Programme which seem especially to claim attention from schools, teachers, superintendents, heads of colleges, and educational journalists are the following:

## DEPARTMENT VII.

## APPARATUS AND METHODS FOR THE INCREASE AND DIFFUSION OF KNOWLEDGE.

## GROUP 70.

## EDUCATIONAL APPARATUS AND METHODS.

CLASS 700.—OBJECTS FOR THE INSTRUCTION AND AMUSEMENT OF THE YOUNG.

CLASS 701.—SCHOOL-FURNITURE AND FITTINGS.

CLASS 702.—SCHOOL-APPARATUS, for experiment and illustration.

CLASS 703.—TABULAR GRAPHIC REPRESENTATIONS, wall-maps, charts, &c.

CLASS 704.—MODELS, RELIEF-MAPS.

CLASS 705.—DRAWING-BOOKS, and instruments and systems of instruction in drawing.

CLASS 706.—WRITING-BOOKS, and systems of instruction in writing.

CLASS 707.—MODELS, CASTS, AND CARVINGS, serving as objects for free-hand-drawing.

CLASS 708.—COURSES AND METHODS OF EXAMINATION.

CLASS 709.—SCHOOL-DISCIPLINE AND MILITARY TRAINING IN SCHOOLS. Sanitary regulations of school-buildings.

## GROUP 71.

## TYPOGRAPHIC AIDS TO THE PRESERVATION AND DISSEMINATION OF KNOWLEDGE.

CLASS 710.—SCHOOL- AND TEXT-BOOKS.

CLASS 711.—DICTIONARIES, ENCYCLOPEDIAS, GAZETTEERS, DIRECTORIES, INDEX-VOLUMES, BIBLIOGRAPHIC CATALOGUES, ALMANACS.

CLASS 712.—SPECIAL TREATISES, under which head may, of course, be included works on education or any of its departments.

CLASS 715.—TECHNICAL AND SPECIAL NEWSPAPERS AND JOURNALS, [under which should come copies of all our educational journals.]

#### GROUP 72.

##### CHARTS, MAPS, AND GRAPHIC REPRESENTATIONS.

CLASS 720.—TOPOGRAPHIC MAPS.

CLASS 721.—MARINE- AND COAST-CHARTS, profiles of ocean-bed between specified points.

CLASS 722.—GEOLOGICAL MAPS AND SECTIONS.

CLASS 723.—BOTANICAL, AGRONOMICAL, AND OTHER MAPS, showing the extent and distribution of men, animals, and terrestrial products. Physical maps.

CLASS 724.—METEOROLOGICAL MAPS AND BULLETINS, MAGNETICAL MAPS, and other graphic representations.

CLASS 727.—TERRESTRIAL AND CELESTIAL GLOBES.

CLASS 728.—RELIEF-MAPS, AND MODELS OF PORTIONS OF THE EARTH'S SURFACE.

### DEPARTMENT VIII.

#### ENGINEERING, PUBLIC WORKS, ARCHITECTURE, ETC.

#### GROUP 80.

##### AGRICULTURAL ENGINEERING.

[This group deserves especial notice from the agricultural colleges.]

CLASS 800.—LAYING OUT FARMS, CONSTRUCTION OF ROADS, draining, irrigating, and construction of farm-buildings.

CLASS 801.—PREPARATION OF THE GROUND AND PLANTING.

CLASS 802.—CULTIVATION, &C.

CLASS 803.—HARVESTING.

CLASS 804.—CLEANING, PREPARING, PACKING, AND PRESERVATION OF CROPS.

CLASS 805.—FARM-TRANSPORTATION.

CLASS 806.—TREATMENT OF THE SOIL.—Improvement, preservation, restoration, and increase of its productive capacity. Use of fertilizers.

CLASS 807.—REARING, CARE, AND MANAGEMENT OF STOCK.

CLASS 809.—FARM-SUPERINTENDENCE AND MANAGEMENT.

#### GROUP 81.

##### MINING ENGINEERING.

[This and the four following groups are commended to the attention of schools of science, scientific departments of colleges, and polytechnic institutes.]

CLASS 810.—SURFACE AND UNDERGROUND-SURVEYING AND PLOTTING.—Projection of underground-work, location of shafts, tunnels, &c.; surveys for aqueducts and for drainage.

CLASS 811.—BORING AND DRILLING ROCKS, SHAFTS, AND TUNNELS.—Borings for water, oil, or other substances, and for ascertaining the nature and extent of mineral deposits.

CLASS 812.—CONSTRUCTION, SINKING, AND LINING SHAFTS, by various methods; driving and timbering tunnels, and the general operations of opening, stoping, and breaking down ore; timbering, logging, and masonry.

- CLASS 813.—HOISTING AND DELIVERING AT THE SURFACE ROCK, ORE, OR MINERS.  
 CLASS 814.—PUMPING AND DRAINING, by engines, buckets, or by adits.  
 CLASS 815.—VENTILATION, LIGHTING, &C.  
 CLASS 816.—SUBAQUEOUS MINING, BLASTING, &C.  
 CLASS 817.—HYDRAULIC MINING, and the various processes and methods of sluicing and washing auriferous gravels and other superficial deposits.  
 CLASS 818.—QUARRYING.

## GROUP 82.

## CIVIL ENGINEERING.

- CLASS 820.—CONSTRUCTION AND MAINTENANCE OF ROADS, STREET-PAVEMENTS, &C.  
 CLASS 821.—SURVEYS AND LOCATION OF TOWNS AND CITIES, with systems of water-supply and drainage.  
 CLASS 822.—BRIDGES OF STONE, BRICK, OR BÉTON.  
 CLASS 823.—IRON AND STEEL BRIDGES.  
 CLASS 824.—SUSPENSION-BRIDGES.  
 CLASS 825.—CANALS, AQUEDUCTS, RESERVOIRS, CONSTRUCTION OF DAMS, &C. Hydraulic engineering, and means for arresting and controlling flow of water; water-supply.

## GROUP 83.

## DYNAMIC AND INDUSTRIAL ENGINEERING.

## GROUP 84.

## RAILWAY-ENGINEERING.

## GROUP 85.

## PUBLIC WORKS AND ARCHITECTURE.

## GROUP 88.

## MILITARY ENGINEERING.

[May be looked after by the West Point Academy, as well as by the Engineer Corps of the Army.]

## GROUP 89.

## NAVAL ENGINEERING.

[May be noticed by the Naval Academy at Annapolis.]

## DEPARTMENT IX.

## PLASTIC AND GRAPHIC ARTS.

[Art-schools, as well as artists, should look after these.]

## GROUP 90.

## SCULPTURE.

## GROUP 91.

## PAINTING.

## GROUP 92.

LINE-DRAWING, ENGRAVING, AND DIE-SINKING.

## GROUP 93.

CHROMO-LITHOGRAPHY AND LITHOGRAPHY.

## GROUP 94.

PHOTOGRAPHY.

CLASS 940.—LANDSCAPE-PHOTOGRAPHS.

CLASS 941.—ARCHITECTURAL.

CLASS 942.—FROM ANIMATE OBJECTS—PORTRAITS.

CLASS 943.—PHOTO-RELIEF-PLATES, ALBERTYPES, WOODBURY-TYPES, HELIOTYPES, &amp;C.

CLASS 944.—REPRODUCTIONS OF ENGRAVINGS, PAINTINGS, DESIGNS, AND DRAWINGS.

CLASS 945.—BAS-RELIEFS, METAL ORNAMENTS, SHELLS, AND SMALL OBJECTS IN RELIEF particularly of fossils and "natural-history" specimens.

[Under the first two of these heads would come appropriately representations of school- and college-buildings, with the surrounding scenery; under the third, photographic sketches of assembled schools, portraits of teachers, superintendents, and college-presidents and professors.]

## GROUP 95.

INDUSTRIAL DESIGNS.

## GROUP 97.

ARCHITECTURAL DESIGNS AND MODELS.

[In this group it would be desirable to have models of some of our best school-buildings, so formed that their interior arrangements and furniture may be inspected.]

## DEPARTMENT X.

SYSTEMS, OBJECTS, AND APPARATUS ILLUSTRATING EFFORTS FOR THE IMPROVEMENT OF THE PHYSICAL, INTELLECTUAL, AND MORAL CONDITION OF MAN.

[Under group 101 here, relating to "sanitary" matters, are included "asylums;" under group 103, "government and law" and "reform-schools."]

## GROUP 104.

RELIGIOUS ORGANIZATIONS AND SYSTEMS.

CLASS 1044.—SYSTEMS AND METHODS OF RELIGIOUS INSTRUCTION AND TRAINING FOR THE YOUNG.—\* \* \* SUNDAY-SCHOOL-FURNITURE AND APPARATUS.

## GROUP 105.

EDUCATION.

CLASS 1050.—PRIMARY EDUCATION; INFANT-SCHOOLS [AND KINDERGÄRTEN.]

CLASS 1051.—PUBLIC-SCHOOL-SYSTEMS.

CLASS 1052.—SPECIAL SCHOOLS OF SCIENCE, LAW, MEDICINE, AND THEOLOGY.

CLASS 1053.—UNIVERSITY-EDUCATION.

CLASS 1054.—TECHNICAL EDUCATION.—Institutes of technology.

CLASS 1055.—ART-SCHOOLS, CLASSES, AND INSTRUCTION.

CLASS 1056.—INSTRUCTION BY LECTURES.

CLASS 1057.—LIBRARIES.

CLASS 1058.—EDUCATION OF THE ABNORMALLY DEVELOPED.

CLASS 1059.—GOVERNMENT-AID TO THE CAUSE OF EDUCATION.—Mechanic arts and agricultural colleges.

## GROUP 106.

INSTITUTIONS, SOCIETIES, AND ORGANIZATIONS HAVING FOR THEIR OBJECT THE PROMOTION OF SCIENCE.

CLASS 1061.—ASTRONOMICAL SOCIETIES AND ASTRONOMICAL OBSERVATORIES.

CLASS 1062.—GEOLOGICAL AND MINERALOGICAL SOCIETIES; [ACADEMIES OF NATURAL SCIENCE.]

CLASS 1063.—BIOLOGICAL, ZOÖLOGICAL, MEDICAL, ETC.

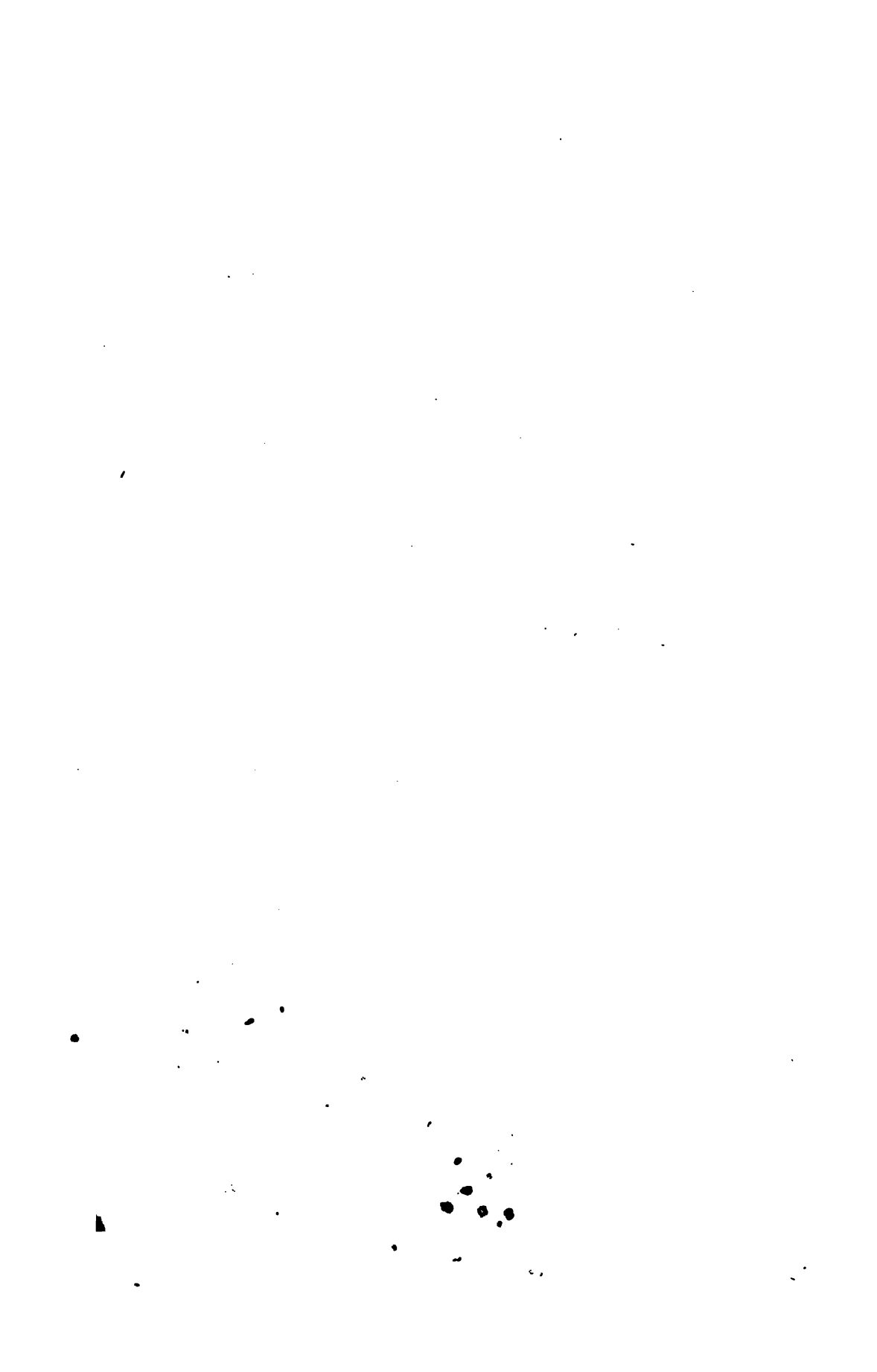
CLASS 1064.—PHILOLOGICAL.

CLASS 1065.—ETHNOLOGICAL AND SOCIOLOGICAL.

CLASS 1066.—ARCHÆOLOGICAL AND HISTORICAL.

CLASS 1068.—COLLECTIONS AND MUSEUMS ILLUSTRATING THE PROGRESS OF SCIENCE.

CLASS 1069.—INSTITUTIONS AND ASSOCIATIONS FOUNDED FOR THE INCREASE AND DIFFUSION OF KNOWLEDGE, such as the Smithsonian Institution, \* \* \* Franklin Institute, Academy of Natural Science, the American Association, &c.; their organization, history, and results.



# CIRCULARS OF INFORMATION

OF THE

## BUREAU OF EDUCATION.

---

No. 2.-1874.

---

DRAWING IN PUBLIC SCHOOLS: THE PRESENT RELATION OF ART  
TO EDUCATION IN THE UNITED STATES.

---

WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1874.





# CONTENTS.

---

	Page.
Letter of the Commissioner of Education to the Secretary of the Interior .....	5
The relation of art to education .....	7
Education in public schools inadequate—changes demanded .....	7
Industrial relations of art .....	8
Our public-school-system favorable to preliminary art-training .....	9
Efforts of European governments to develop preliminary art-training .....	10
Speech of Mr. Cole, giving the history of the origin of the South Kensington Museum ..	12
American facilities for general introduction of art-training .....	15
Influences of localities on art-development .....	15
A beginning already made towards general art-training .....	16
Massachusetts the first State to act .....	17
Annual reports of Massachusetts committee on drawing .....	17
The teachers must be taught before the pupils can be .....	21
Knowledge of drawing essential to a mastery of the creative art .....	22
Refining influence .....	23
Sources of statistical information .....	24
Drawing already introduced into some public schools .....	25
Worcester Free Institute .....	26
Lowell Free School of Industrial Design .....	26
Woman's Art-School, Cooper Union, New York City .....	26
Philadelphia School of Design for Women .....	26
School of Design of the University of Cincinnati .....	27
National Academy of Design, New York .....	30
Yale School of the Fine Arts .....	35
Pennsylvania Academy of Fine Arts .....	36
College of Fine Arts, Syracuse University .....	38
Harvard University .....	39
University of Michigan .....	39
Cornell University .....	40
Rochester University .....	40
College of Notre Dame .....	40
Vassar College .....	40
Public art-galleries and museums .....	41
Metropolitan Museum of Art, New York .....	41
Museum of Fine Arts, Boston, Mass .....	44
Corcoran Art-Gallery, Washington, D. C. ....	47
San Francisco Art-Association .....	49
Summary of the present condition in the United States of education as relating to art.	50
Schools of design .....	50
Schools of art .....	51
Art-departments in colleges and universities .....	51
Public art-museums and galleries .....	51
The Brooklyn Art-Association .....	51
Loan-exhibitions .....	52
Statistical tables relating to museums of art and archæology .....	53



## LETTER.

---

DEPARTMENT OF THE INTERIOR,  
BUREAU OF EDUCATION,  
*Washington, D. C., August 4, 1874.*

SIR: The introduction of the study of drawing into the regular course of studies in the public schools has, especially since its adoption by the State of Massachusetts, attracted the attention of educators. From its relation to technical training and to manufactures and on account of its practical value to every child, I have thought it important that the means of forming an intelligent judgment in regard to the wisdom and feasibility of its introduction into the schools should be furnished to school-officials.

With this view, and because I was prevented by want of space from giving to this subject in my annual report as full a consideration as seems desirable, I have had prepared, by I. Edwards Clarke, A. M., of this Bureau, a paper setting forth in brief the views and actions of European nations in securing for their pupils generally a knowledge of drawing. The estimate placed by these nations upon such knowledge of drawing and its direct influence upon the manufactures of a country are shown.

The methods adopted by Massachusetts in introducing the study of drawing in all public schools and in providing technical training for older citizens are stated at length, in order that the citizens of other States may understand the experiment there being tried, which thus far seems a success.

As full a statement as practicable is given of all the institutions in the United States which afford training in industrial, technical, and high art; also a list of public art-museums and galleries.

An effort has been made to state the reasons why a general knowledge of drawing is desirable and to show, from the experience of other countries, that it is practicable; and also to set forth clearly the present state of art-training in this country, with its facilities and deficiencies.

Believing that the information contained in this paper will be found of value to educators, I respectfully recommend its publication as a circular of information.

Very respectfully, your obedient servant,

JOHN EATON,  
*Commissioner.*

Hon. C. DELANO,  
*Secretary of the Interior.*

Approved, and publication ordered.

C. DELANO,  
*Secretary.*



## THE RELATION OF ART TO EDUCATION.

In the report of the United States Commissioner of Education for 1870 an attempt was made to collect, from those best qualified to judge, evidence as to the influence of such knowledge as can be acquired by the pupils in the public schools of the country, upon their value as workmen in every kind of productive industry—as to whether such knowledge tended to make better workmen, to secure better products as the result of their labor, to procure for the laborers themselves better wages, and to advance in all respects their position. The replies to the questions addressed to workmen, employers, and competent observers are full of interest in themselves and significant in the almost unanimous expression of the opinion that every advance in learning gives corresponding advantage to the laborer, the testimony being that a mere knowledge of the rudiments adds 25 per cent. to the earning capacity of the individual. The establishment of such a fact is at once ample justification, in an economical point of view, for the maintaining by every community of free public schools for the instruction of every child, as is freely conceded by most communities in the United States.

### EDUCATION IN PUBLIC SCHOOLS INADEQUATE—CHANGES DEMANDED.

In the rapidly-changing circumstances of the present age, arising in part from increasing facilities for intercommunication between the nations, the competition between the producers of the world grows ever more intense, and demands watchfulness and energy on the part of every country unless it is willing to fall behind in progress and in power. In addition to this universal fact, a new complication has arisen, owing to the abandonment of the old system of apprenticeship, by which young persons were trained to become skillful workmen in the various employments and trades, and from the bitter opposition of trades-unions to the training of youth in their various occupations, so that it has become almost impossible for a parent to procure for his children such industrial training as will make them skillful artisans.\*

From these and other causes, dissatisfaction has arisen with the present system of common-school-education, just as in superior education there arose a demand for training in the natural sciences, which has resulted in the great schools of science which to-day supplement the colleges and number their students by thousands.

---

\* "Since apprenticeship has virtually ceased, through the subdivision of labor, it is doubly necessary that the public schools should give the elements, scientific and artistic, which form the basis of a technical education. And they should do this without diminishing the literary culture they now impart. Only by such an enlargement of the common-school-curriculum can the great body of laborers secure the education so essential to their welfare and be kept from degenerating into mere machines for doing a limited variety of work." (Technical Education, p. 115.)

That system of public education which fails to give to its pupils increased ability to perform the duties of life is self-condemned in so far as it so fails. In consequence of the difficulties in the way of parents securing for their children training in remunerative labor, it is felt that the public schools must give instruction that will fit the children for work ; that something more and other than the present training is now necessary.

With changing conditions, the forms of education must change ; and what is best for one age or country may be very far from meeting the needs of another. While competition in all except the simplest forms of manual labor has been so extended as to bring the productions of the most distant regions and the manufactures of remote neighborhoods face to face, the new discoveries in science, with their varying applications to industrial art, and the manifold inventions of new methods in every department of industry demand increased skill in the laborer, under penalty of utter failure. The best-made goods and the cheapest products of equal quality *command* the markets of the world.

It is plain that in this country the pressure of this competition must increase and that any wise plan of free public education must take into account, in training the future citizens of the country, the circumstances that are to surround them. Special schools of training for special professions and industries will doubtless be provided as the need arises, as they have been in the past, and with that question we are not now dealing ; but the great bulk of the population is to be trained for usefulness in the public schools of the country, and the obvious duty of those in whose charge these schools are placed is to devise a plan by which, during the few years of average attendance, the pupils may be so trained as to be best prepared for the duties of life. It is found that merely to read, to write, and to cipher does not do this. Indispensable as this preliminary training is to the acquisition of other knowledge, something more is requisite, if, as a manufacturing and commercial people, we are to hold our own among the nations.

#### INDUSTRIAL RELATIONS OF ART.

In addition to the increased competition arising from steam-carriage, new and cheaper methods of manufacture, and increased productiveness, another element of value has rapidly pervaded all manufactures, an element in which the United States has been and is woefully deficient—the art-element. The element of beauty is found to have pecuniary as well as esthetic value. The training of the hand and of the eye which is given by drawing is found to be of the greatest advantage to the worker in nearly every branch of industry. Whatever trade may be chosen, knowledge of drawing is an advantage and in many occupations is rapidly becoming indispensable.

From a recent work\* I take the following paragraphs, setting forth some reasons why it is desirable that drawing should be taught in the public schools.

---

\* "Technical education ; what it is, and what American public schools should teach. An essay based on an examination of the methods and results of technical education in Europe, as shown by official reports." By Charles B. Stetson. Boston, Jas. R. Osgood & Co. Pp. 284.

This little book is largely occupied with extracts from the official reports made under the direction of foreign governments upon the subject of teaching drawing and giving special artistic training as generally as possible. It is clear that the subject is regarded by these governments as of great and pressing importance.

"DRAWING A PART OF POPULAR EDUCATION.—This harmony between education and the demands of the age also requires that drawing should hold a conspicuous place in popular education. Both for the peculiar culture it imparts and for its practical uses, it should be taught in every public school." (Page 18.)

"Almost everything that is well made now is made from a drawing. In the construction of buildings, ships, machinery, bridges, fortifications, nothing is done without drawings. It is not enough that there be draughtsmen to make the drawings: the workmen who are to construct the objects required should be able, without help, to interpret the drawings given for their guidance. This they cannot do without instruction that acquaints them with the principles on which the drawings are made and so trains the imagination as to enable it to form from the given lines a vivid mental picture of the object required. The workman who lacks this knowledge and this ability, as it is probable that nineteen-twentieths of American artisans now do, must work under the constant supervision of another, doing less and inferior work and receiving inferior wages. But it is also essential that the workman himself be able to make at least a rude working-drawing whenever, as frequently happens, an emergency requires it." (Page 19.)

"It may be accepted as a general truth, the more of an artist the better the artisan, for the work will ever tell of the workman. Hence it is of the utmost importance that instruction in drawing should go far beyond exercises in mere copying; that the principles of good design should be thoroughly taught; and that the pupils, from an early age, should be systematically trained in the pleasant and intellectually-stimulating production of original designs." (Page 21.)

"Much precious time has already been irretrievably lost; and for a generation to come American laborers must feel the evil consequences. In a matter which depends upon the education of the whole people there must always be patient waiting for results. Nothing can be achieved at a bound.

"While so little has been done for industrial education in America, so much has been done, and is now doing, in other countries, that it must be many years, even with the best possible effort, before American farmers, manufacturers, and artisans, as a body, can equal the skill of many of their foreign competitors." (Page 25.)

"Since, then, skilled labor is the only sure foundation for prosperous manufactures and since the artisan-class is increasing and must for the reasons given continue to increase, in relative numbers and importance, much more rapidly than the whole population, the proper education of this class becomes with each succeeding year a matter of more vital consequence." (Page 29.)

"Different European governments have been for a series of years making earnest, systematic efforts—and perhaps nothing so engrosses their attention now—for the technical education of workmen, beginning it in primary schools and continuing it through evening-schools, Sunday-schools, apprentice-schools, schools of arts and trades, popular lectures, and museums, with its culmination in great technical universities. To-day it is with educated, skilled labor—ever the cheapest as it is the best labor—that Europe proposes to meet the world in friendly contest for industrial supremacy. Let America take note that it is the educated, skilled labor of Europe, and not pauper-labor, as so many believe, which she has good reason to fear and against which she can defend herself only by educating her workmen equally well." (Page 30.)

#### OUR PUBLIC-SCHOOL-SYSTEM FAVORABLE TO PRELIMINARY ART-TRAINING.

While the United States lack many things that give to the nations of Europe great advantage in art-culture, they possess, on the other hand, in their system of free public schools, admirable facilities for the speedy, general, and efficient



introduction of any desirable system of training. - If it is desirable that drawing shall be taught in all the public schools, it must be done by the present teachers themselves. Walter Smith, who is an admitted authority on this subject, says, decidedly : "There can be no separate teachers of drawing as a separate subject any more than of writing or arithmetic as separate subjects ; but the general teachers themselves must learn and teach elementary drawing to the children in the same way that they learn and teach other subjects. That is how the difficulty has been met in other countries, and it is the only way possible of meeting it here." Recurring to this subject again, he objects to the employment of special teachers to teach the school-children drawing as an "unmitigated evil." The children exaggerate the difficulty of learning a study "which is so difficult that their own teachers cannot learn it." "When a special teacher is employed, it should be as a superintendent to give instruction in drawing to the regular teachers, and not as a direct teacher of children in the public schools." As to the difficulty of acquiring it, "whoever," says a competent authority, "can learn to write, can learn to draw ;" and it has been shown that the teachers of the public schools are very readily qualified to teach the first lessons in drawing. This training is of value to all the children and offers to girls as well as boys opportunity for useful and remunerative occupation, for drawing in the public schools is not to be taught as a mere "accomplishment." The end sought is not to enable the scholar to draw a pretty picture, but to so train the hand and eye that he may be better fitted to become a bread-winner.

It seems to be generally conceded that the rudiments of drawing can be learned by the child at a very early age and by any child of ordinary capacity. Mr. Walter Smith declares that "it was demonstrated by fair experiment in England in 1852 that about 100 per cent. of school-children could be taught to draw well." M. Delahaye, director of the professional school at Batignolles, in his evidence before the French commission, says, on this point, "Great importance is attached to the teaching of drawing, so much so that the boys of seven years old commence to learn drawing at the same time that they begin to learn to write." As to the importance of the study, the French imperial commission, in their summary of the inquiry on professional education, say, "Among all the branches of instruction which, in different degrees, from the highest to the lowest grade, can contribute to the technical education of either sex, *drawing, in all its forms and applications, has been almost unanimously regarded as the one which it is most important to make common.*" (Technical Education, p. 208.)

#### EFFORTS OF EUROPEAN GOVERNMENTS TO DEVELOP PRELIMINARY ART-TRAINING.

In Great Britain and in the leading countries of the continent, the governments are making strenuous efforts to train their citizens in all those kinds of knowledge which will make them more skillful artisans and add to the value of their productions. The contests between nations have become largely industrial; and, while the commerce and trade of the world are the prize for which

they contend, the great international industrial exhibitions are the arenas in which they measure their progress and note their deficiencies. It may be worth our while to observe the methods by which they seek to remedy these deficiencies and to judge of their value by recorded results. The effect of the first World's Fair, held at Hyde Park in 1851, under the patronage of Prince Albert, was to satisfy the English manufacturers and people that, in all that related to the application of art, of beauty, to manufactures, they were completely distanced, only one nation, the United States, among the civilized nations being below England in this respect. On this subject, Professor Ware, professor of architecture in the Boston Institute of Technology, bears the following testimony, given in the Papers on Drawing, published by the State-board of Massachusetts in 1870:

"At the Universal Exhibition of 1851, England found herself, by general consent, almost at the bottom of the list, among all the countries of the world, in respect of her art-manufactures. Only the United States of the great nations stood below her. The first result of this discovery was the establishment of schools of art in every large town. At the Paris Exposition of 1867, England stood among the foremost, and in some branches of manufacture distanced the most artistic nations. It was the schools of art and the great collection of works of industrial art at the South Kensington Museum that accomplished this result. The United States still held her place at the foot of the column."

In England, the moment that this deficiency was realized, the most energetic steps were taken to remedy it, and so wisely taken that the exhibition of 1862 showed such wonderful improvement that a French commission was at once sent over to find out how it had been done; and the city of Paris, upon the report of the commission, began at once to re-organize the municipal art-schools by adopting many of the features of the South Kensington Museum and Training-School for Art-Masters.\*

---

\* What is now being done in European countries to advance the interests of industry by elevating the taste and skill of workmen must necessarily be a matter of much interest to us just now, when we are trying to bring our workmen up to the same level. In many parts of Germany, instruction in industrial art in night-classes is gratuitous, as it is here; and almost every important village, even, has classes. In France, the municipal schools are not all of them free, though a few are; and the immediate money-value of art-power keeps the schools always crowded with students.

Perhaps the most important retrospect with regard to French art-education is that which reviews the effects upon them of the English International Exhibition of 1862. The enormous strides which art-education had made in England since the previous great exhibition in 1851, and which was reflected in every object of industrial art displayed in the exhibition of 1862, set the sensitive French manufacturers at work inquiring the cause, fearful that their own industrial-art-supremacy was endangered. A commission, which visited England and examined into the subject with characteristic sagacity, soon discovered the cause of improvement, and paid special attention to the administration of the South Kensington Museum and its Training-School for Art-Masters.

The city of Paris, always ready to advance art, appointed a commission in 1863 to examine and draw up a scheme for re-organizing the municipal art-schools and suggest some plan by which the whole system of instruction could be improved. The report of this commission contained, among other details, the following recommendations:

"The holding of annual examinations for granting diplomas to male and female professors of drawing, and to whom alone the city-schools should be intrusted.

"Drawing to be made obligatory in all the public schools, whether for boys or girls."

The French imperial commission in 1865, in their report, after proposing oral lectures for the instruction of apprentices and workingmen, say, "that drawing, with all its applications to the different industrial arts, should be considered as the *principal* means to be employed in technical instruction." Referring to the fact that drawing has been heretofore so generally taught in France, they attribute to this the superiority of a large portion of the manufactures of the country. They thus describe the efforts made by the English government :

"The Universal Exhibition of 1855, and especially that of London in 1862, have clearly shown the results which England has already obtained from the immense efforts—among others the establishment of the splendid museum at Kensington—she has made, ever since 1852, to deprive France of that superiority in the works of industrial art which the first exhibition of 1852 has proved to be indisputable. Soon after this exhibition, the most competent judges in England, far from refusing to acknowledge the pre-eminence of our artists over theirs, publicly proclaimed it; and, with the promptitude and active energy peculiar to their nation, they set about diffusing through all classes of society a taste for drawing and the arts, not only among workingmen and artists, but also among the general public. \* \* \* \*

"Everybody knows the magnificent Art-Museum at South Kensington, for the founding of which the science- and art-department has collected from all quarters masterpieces of every kind, at a total expense to the state of not less than a million pounds sterling since 1852. Besides this outlay for first establishment, the art-department has a yearly grant of eighty thousand pounds sterling.

"By the extent of the resources placed at the disposal of this special and new department, created for the purpose of enabling English industry to compete with ours, an opinion may be formed of the importance rightly attributed in England to the participation of the art of design in all industrial productions. \* \* \* \*

"England is not the only rival of French industry which has recognized its superiority with regard to works which require the aid of art and taste. Germany, moved by the same sentiment, has organized, since 1852, at less cost, but perhaps with as much success, drawing-schools of different degrees. In all the practical schools and in the polytechnic institutions, the teaching of drawing holds a prominent place." (Technical Education, pp. 196, 198.)

They also report upon the condition of technical education on the continent. They find that drawing is generally taught in Germany, Switzerland, Austria, Bavaria, and Würtemberg. As showing the extraordinary attention given to drawing in this small kingdom, they remark :

"Drawing also forms part of the instruction given in the normal school for primary teachers, so that they may be able hereafter to teach their pupils the first elements." \* \* \*

"Thus there have been established in the kingdom of Würtemberg more than four hundred drawing-schools; and this organization, which does not date back more than ten years, has already led to very decided improvements in the manufactures of the country." (Technical Education, p. 207.)

#### SPEECH OF MR. COLE, GIVING THE HISTORY OF THE ORIGIN OF THE SOUTH KENSINGTON MUSEUM.

While the notes already given show the immediate effects of the English efforts to make up for the deficiencies in art-manufactures and present a view of the activity in the European countries in relation to technical education, especially showing the importance they give to the teaching of drawing to children, the following extracts from a speech recently delivered at the annual meeting of the Henley School of Arts, "On the origin and work of the Depart-

ment of Science and Art and on the future of the South Kensington Museum," by Mr. Cole, who has been in charge of the museum from its foundation, furnish a brief history of the origin, growth, and present state of the system of art-education in Great Britain by the person best qualified to speak upon the topic. I regret that want of space prevents my giving the whole of this admirable statement:

"After congratulating the art-students of Henley, whose school had the proud distinction of ranking fourth in merit in competition with 122 schools of art in the United Kingdom, he remarked that this eminent position was due to their good works, produced by means of a comprehensive and national system of science and art applied to productive industry, the establishment of which the nation owed to the wise foresight of the late Prince Consort. That system provided for the instruction in science and art of all classes of people, offering to all different steps of instruction by means of elementary and special schools, the circulation of examples, and public museums forming an essential part of the whole. The system, although allied with state-aid, was a purely voluntary one. It had existed for twenty years; had taken root in the country and in our colonies; and was imitated in Europe and in the United States. The demand of the people for this instruction in science and art had increased annually until it now reached the cost of about a quarter of a million a year. And this increase, as Mr. Lowe told the House of Commons before he was chancellor of the exchequer, [a laugh,] was 'the great merit of it.' \* \* \* In 1847 there were only twenty local art-schools, most of them oppressed with debt and difficulties. There was no elementary drawing taught in schools for the poor and no public attempts were made at scientific instruction. There was no training-school for teachers in either art or science and the total number of pupils in all the art-schools did not exceed 5,000. There were no museums of an industrial character. The great exhibition came in 1851. \* \* \* The exhibition made Prince Albert alive to the urgent necessity in his adopted country for better technical instruction. At the close of the exhibition, he persuaded Lord John Russell, the prime minister, to authorize an attempt to reform the schools of design, and in 1852 Earl Granville (the then vice-president of the board of trade) invited him (Mr. Cole) to try for one year what he could do with those schools. In a month or so Lord Derby came into office and Prince Albert enlisted his sympathies. One of the first recommendations which he (Mr. Cole) made to his immediate chief, Mr. Henley, was that the artisans of the country should be offered help in learning geometrical drawing. Adam Smith had made the same suggestion one hundred years before, but it had never been acted upon. So little was the subject understood that Mr. Porter, the eminent statistician, then secretary of the board of trade, opposed the advice. He did not think it the duty of the state to help carpenters to learn geometrical drawing. Mr. Henley decided to the contrary, and now there were thousands of artisans who had to thank Mr. Henley for his sagacity. [Cheers.] \* \* \*

"South Kensington became the center of science- and art-instruction throughout the United Kingdom, and it would interest the meeting if he contrasted the working of the department of 1852 with that now going on. In 1852 there were only 20 art-schools, with 5,000 students, paying £2,600 in fees; now there are 122 schools, with 22,800 students, paying £24,800 a year in fees. \* \* \*

"There was then no teaching in schools for the poor; now 194,500 children were taught drawing. There were then no night-classes for artisans; now there were 538 classes, with 17,200 students. \* \* \*

"In 1872 the South Kensington Museum was visited by upwards of 1,156,000 persons; its art-library was used by 19,750 students and its educational library by 15,360 persons—clergymen, teachers, and others interested in elementary education, coming from all parts of the country to consult it. [Cheers.] The museum had circulated, without accident, through local exhibitions, upwards of 5,400 paintings, objects, diagrams, &c., which were visited by more than 604,000 persons. It has lent to local schools of art for study upwards of 1,300 objects and 2,100 books, prints, &c., relating to fine arts. \* \* \*

"People were still apt to look at museums as mere collections of 'things rare and curious;' things for learned people only, for rich people only, for *dilettanti* only. The Prince Consort and his followers looked at them from a different point of view: the point of view of science and art applied to productive industry. What did the architect do who wanted to learn his profession? He looked at buildings. What did Flaxman do when he applied himself to pottery? He studied Greek pottery. What did Herbert Minton do to enable his manufactory to compete successfully with Sèvres? He collected and studied the masterpieces of Sèvres. Why was Mr. Phillips, the jeweler, trusted to set jewels with good taste? Because he studied the ancient and mediæval models. What gave Pugin his reputation for Gothic metal-work but his study of mediæval models? What had created a trade in majolica in this country but the Soulages collection? What had given the Craces, and Jacksons, and Grahams, and Gillows, and Hollands their reputation for furniture, but their knowledge of ancient examples? It was simply savage ignorance and priggish pedantry not to recognize the absolute necessity for examples of art easily consultable by the public who were consumers, by the manufacturers who were producers, and by artists and artisans who were students. [Hear! hear!] Where were they to consult them, if not in public museums? Why was the Frenchman more apt at industrial art than the Englishman? Because for a century he had had his free museums in Paris and in every other large town. [Hear! hear!] And public museums were necessary for science as well as art. Collections of diagrams, of educational apparatus, and of specimens of natural history were indispensable to the managers of schools and teachers. Where was there any collection except in the South Kensington Museum? Why did the admiralty have a museum of the models of ships? Would mechanical science be in its present state if our engineers could not consult the example of their predecessors? The fact was that, if museums were not educational, they were of very limited value. \* \* \*

"The advantages possessed by the South Kensington Museum were that it was open on three days of the week until 10 o'clock at night. The student could consult the art-library and educational library by showing his school-ticket or he might get admission for a week for 6d. He could draw any object he saw; he could eat what he pleased; he found every object labeled, and was told what the nation had paid for it. He found chairs and benches in plenty to sit upon and he could wash his hands if he wanted to do so. He found the lighting perfect; everywhere he could see appropriate, new, and unobtrusive decorations. \* \* \*

"The buildings were cool in summer and of equal warmth in winter. He could breathe reely and get no headache. He could look at the jewelry and the priceless gems lent by the Duke of Marlborough and the Duke of Devonshire and Mr. Beresford-Hope, without disturbing or boring a very learned keeper. The spirit of the place had always sought to attract the public, its paymasters, to come as often as possible, and to give them a hearty welcome."

In addition to the account of the working of the South Kensington Museum and schools, given by Mr. Cole, the following brief statement of the methods of the English system of art-education will be found of interest:

"In England the same stages of study are common to both the national training-school and the local schools of art; and from the fact that the masters of the provincial schools are all trained and examined and receive their diplomas upon the same course as they afterward give instruction to their pupils in, only of a much more advanced grade, there is a general similarity in the works of all the schools and harmony in the national system. This systematizing of art-study is made more certain by the annual examinations of the schools in every grade of study, with the same tests for each grade in every school throughout the country; and this unification extends even to holding the annual examinations at the same hour in all the schools of the United Kingdom. The building-up of this system has taken many years to accomplish; the schools of design dating from 1836, when the government established the head school at Somerset House in London and several provincial schools. The distinct features, however, of the English scheme date only from the year 1851; and the details have been wrought out and consolidated by successful experiments since that time. The administration is in the hands of the department of science and art of the committee of council on

education, a department of the government; and thus uniformity of plan is secured. The agencies for industrial-art-education employed are, first, a museum of industrial masterpieces; and a large portion of the national collection of pictures in connection with, secondly, a national training-school for art-masters, both located in the same building; thirdly, a traveling museum, for exhibition in the provinces, which circulates good specimens of industrial art and forms the nucleus for local exhibitions, and also the circulation of books and paintings, on loan, to provincial schools; fourthly, examination and supervision of all grades of art-instruction carried on in connection with the national system. Art-instruction is divided into three grades, progressing in difficulty from the first, and called first, second, and third grade. Teachers are trained and certificated to give instruction in each, according to their powers; and, thus qualified, the government recognizes their qualifications by paying, on a published scale, a sum of money for each successful examination passed by the pupils of these certificated teachers." (Art-Education, Scholastic and Industrial, pp. 132, 133.)

#### AMERICAN FACILITIES FOR GENERAL INTRODUCTION OF ART-TRAINING. \

While, in the countries of Europe, whatever relates to the people in education, as in other matters, is in the control and general direction of the central government, so that what the central power decides to do is readily and immediately set in motion throughout the entire country, in the United States there is wisely no such central control. This power inheres to the States and to the local communities within the States. This very circumstance, though somewhat, it may be, delaying the adoption of useful measures, yet renders the wise adaptation of training to the peculiar industries and needs of the various parts of the country far more probable. It is readily seen that the kind of special technical training would vary as it was applicable to a manufacturing, a farming, or a mining community.

#### INFLUENCE OF LOCALITIES ON ART-DEVELOPMENT.

Indeed, this has already been exemplified in a marked degree in the different developments of the schools of science in the several States, adapting themselves in their chief courses of instruction to the industrial demands of their localities. So we may hope to have in the art-future of this country, as have the different European countries, art-capitals famous for their peculiar developments and queening it over their own States, as do Dresden and Munich and Florence and the other famous homes of art. San Francisco, St. Louis, Cincinnati, Chicago, Cleveland, Pittsburg, Boston, New Haven, Worcester, and many other prosperous cities and towns may become in time great centers of beauty as well as of commerce, each having its own special development, varying in architecture according to the building-material most conveniently accessible and in art-production and artistic manufactures according to their special industries and resources, but all alike affording to their children thorough technical training and all attractive because everywhere the eye rests on noble buildings—when the homes of industry shall also be homes of beauty, and to walk through the city-streets shall be of itself an art-education, as of old in Athens, as it was in many a mediæval town and is still in many an ancient city of France, and Germany, and Italy, and far-off Spain.

Now, drawing is the very alphabet of art, (for art is but a language,) the one

essential requisite preliminary to any artistic or technical training; and, if it is desirable that the children of the public schools shall be fitted to become, if they wish it, skilled workmen in any branch of industry, it is necessary that they shall be taught to draw correctly. To those to whom art means higher things, as they suppose, than its application to every-day-utensils and mere manufactures, who look for grand galleries of pictures and statues and to all the higher refinements of cultured art, it may be a suggestive reflection that, among a people ignorant of drawing and whose daily surroundings—as is true of most of the American people—afford few suggestions of art in any of its forms, high art must ever remain an exotic and native artists be rarer than the fabled phoenix.

A country's art, like all its other good things, must be based primarily upon its people. Where all are judges of art, great artists arise, just as great warriors among nations of soldiers; and, until the common people know the language of art and can comprehend the meaning of line and color and form, the artist is as much out of place and as little to be looked for as a great author would be among a people ignorant of reading.

Nor has it ever been otherwise. The history of art is the history of peoples. Nor is there anything little or common in the eyes of art. The people that produced great buildings, fine paintings, and noble statues had also the most exquisite household-utensils. Their commonest articles, whose fragile beauty has outlasted the centuries, to-day, with subtle grace and perfect form, tease the eye of the artist and challenge in vain our most skilled artisans to reproduce them. The antique eastern dish of burned clay is held by the modern *connoisseur* as of more worth than its weight in silver; yet it was once in as humble and universal use as the commonest crockery of our kitchens.

Great collections, museums, art-galleries, much as they may contribute to the self-satisfaction of cliques and cities, will be of the slightest possible value and barren of results, either upon the industries of the people or their art-culture, so long as drawing is not generally understood.

Whoever succeeds in having all the public-school-children of the country properly trained in elementary drawing will have done more to advance the manufactures of the country and more to make possible the art-culture of the people than could be accomplished by the establishment of a hundred art-museums without this training. Just as libraries are worthless to those who cannot read, so are art-collections to those who cannot comprehend them; just as all literature is open to him who has learned to read, so is all art to him who has learned to draw, whose eye has been trained to see and his fingers made facile to execute. We have begun at the wrong end: we asked for art-galleries when we needed drawing-schools. But the evil is not irremediable. Let drawing be generally taught, and our art-galleries and museums, poor as they are, will at once grow more and more valuable; for they will then begin to be of use.

#### A BEGINNING ALREADY MADE TOWARDS GENERAL ART-TRAINING.

Already many cities and towns have awakened to the necessity of some *art-training* and some teaching of drawing has been attempted in the public

schools, so that several of the cities sent specimens of the drawing of their public-school-children to be exhibited at Vienna, which attracted much attention from foreign observers, as, in fact, did everything relating to our system of public free education.

#### MASSACHUSETTS THE FIRST STATE TO ACT.

The legislature of Massachusetts, moved thereto by the persistent efforts of a few cultured and public-spirited citizens, who realized the imperative need and demand for such training in the public schools, passed an act in 1870, making drawing one of the studies of the public schools and also making the establishment of free drawing-classes for adults obligatory upon all towns and cities containing over ten thousand inhabitants. In pursuance of this law, Mr. Walter Smith, "Art-master, London, late head master of the Leeds School of Art and Science and Training-School for Art-Teachers," was invited, both by the city of Boston and by the State of Massachusetts, to come from England and introduce the new study into the schools of the city and of the Commonwealth. Mr. Smith was highly recommended by the Kensington school-authorities. He was appointed State-director of art-education, and has been unremitting in his efforts to introduce drawing into the public schools and to foster the establishment of classes for adults. Mr. Smith was also appointed general supervisor of art in the Boston schools.

He published, in 1872, a large illustrated work upon art-education,\* which is indispensable to a thorough investigation of the subject and will be found full of practical suggestions to those wishing to introduce the study into the schools.

#### ANNUAL REPORTS OF MASSACHUSETTS COMMITTEE ON DRAWING.

The annual report of the committee on drawing, published June 10, 1873, contains 28 pages of heliotype "fac-similes of drawings made in the ordinary course of instruction by pupils in the public schools and free industrial night-classes, which were exhibited at the annual exhibition."

There are drawings from pupils in the primary, grammar-, and high schools, and of children of all ages, from eight years upwards. The ages of the pupils of the evening-classes whose drawings are given are from fourteen to twenty-five; these drawings are made by mechanics, clerks, wood-engravers, carpenters, and shipwrights.

Certainly, as showing the results of but two years' instruction, these drawings are remarkable and full of encouragement to those who hope so much from the experiment. Two difficulties have been met: the want of persons qualified to teach the public-school-teachers and the want, in the advanced classes, of pupils who had had the benefit of proper elementary training.

The general supervisor gives normal instruction to the teachers, and his lessons are repeated by two assistants.

---

\* "Art-Education, Scholastic and Industrial, by Walter Smith, art-master, London, late head master of the Leeds School of Art and Science and Training-School for Art-Teachers, now professor of art-education in the City of Boston Normal School of Art and State-director of art-education, Massachusetts." With illustrations. James Osgood & Co., Boston, 1872. Pp. 398.



Five hundred city-school teachers attended these lessons in 1872 and 620 in 1873. The committee, in their report, speak in the highest praise of the marked advance made during the past year.

The need of some provision for the art-training of teachers became so evident that the legislature made a small appropriation for that purpose, and rooms were assigned for it in 33 Pemberton Square, Boston, Mr. Walter Smith being appointed director and an able corps of instructors secured.

In their first annual report, the board of visitors say: "The most important event of the past year connected with the educational interests of the Commonwealth was doubtless the establishment of the State Normal Art-School." After expressing in the strongest terms the importance, in their judgment, to the State of general artistic and technical training, they say, "The special purpose of this school is to train teachers of drawing and the arts of design. It is the first institution of the kind established in this country. The necessity of providing this new educational instrumentality became apparent as soon as the attempt was made to carry out the provisions of the law requiring the teaching of industrial drawing, provisions which had been made in compliance with the request of leading representatives of the great industrial interests of the State. It was in vain to look to private enterprise for the means of qualifying the needed teaching staff. Public provision was indispensable."

The report urges the imperative necessity of immediately taking measures to provide more suitable accommodations; and, after declaring there is no longer any question but that this school is demanded, they close by saying, "As Americans, we are apt to boast of our enterprise, especially in all matters pertaining to popular education; but it is a fact which ought to moderate our disposition to indulge in self-complacency that, since the movement was begun in this State in 1869 in favor of industrial-art-education, in several European cities very large and costly establishments for this purpose have been built and equipped in the amplest manner."

The following extract from a letter recently received at this Bureau from Mr. Smith is of interest in this connection:

"I would like to say that, called by the city of Boston and the State of Massachusetts to organize a system of industrial drawing in both, the first thing I discovered with certainty was that qualified teachers of drawing did not exist in this country; and, after a careful examination of all the drawing-classes in the State, I saw the one thing necessary to make success possible was to train teachers. I, therefore, with Mr. Philbrick and others, appealed to the State to establish such a school, first unsuccessfully, in 1872; next successfully, in 1873. I have had over two hundred applications for admission; and, if proper conveniences were given, (I judge that a great training-school is essentially needed in this country,) such a school can open with five hundred students next year. It has been terribly uphill-work and is so now, the appropriation being entirely insufficient and the two upper floors (about 35 by 18 feet each) of a private house being utterly ill-adapted for the work, the crowding and inconvenience being intolerable. Still, the best work ever done in this country, the authorities tell me, is being done in the school, and my hope is that the little we do shall be at least searching and thorough.

"I have on my desk applications from many colleges and universities in several States for accomplished teachers of art. I do not know one. It will take us four years to make one, and then we may make perhaps from ten to twenty. I wish that America could have, as every European country has, an industrial-art-school, which should by its graduates affect the value and beauty of every branch of industry."

In his "Second annual report on the promotion of industrial-art-education in the State of Massachusetts for 1873," made to the State-board of education, Mr. Smith refers to the difficulty of obtaining trained teachers for the free industrial-drawing-classes. He also dwells upon the importance of enforcing the provisions of the law requiring drawing to be taught in *all* the public schools, and especially in the teaching of drawing in the primary schools, and remarks that the usefulness of the free industrial classes is much impaired by the need of teaching the primary lessons in drawing; a difficulty which existed in England and on the continent, so that "the success of the art-schools was limited and their influence on manufactures inappreciable." The remedy there was found in teaching every child to draw in the public schools, and in a few years the effect was so marked in England that, instead of there being less than a score of schools barely supported by the public, as was the case in 1851, there are now in the United Kingdom nearly eight hundred schools of art and evening-classes at which instruction is given in industrial drawing.

"The agency in popularizing drawing next in importance to the normal art-school is the drawing-class in each normal school. Here the teachers of the public schools will be prepared for teaching drawing as one of the elementary subjects of general education.

"I have visited and examined the pupils of the four normal schools during the year. Each school has now an art-class-room and the nucleus of a collection both of casts and flat copies."

In regard to the free industrial-drawing-classes in cities of over 10,000 inhabitants, 20 are reported as having been held and three cities disregard the statute. The director suggests that the law shall be amended to include all towns of over 5,000, which would include 43 more, and suggests that the present law will work hardship to the workmen of the smaller places who may also desire to become skilled workmen. He also furnishes a schedule for a thirteen-years course of art-training in the public schools, three in the primary, six in the grammar-, and four in the high schools. He also gives a schedule for a two-years course in the free industrial-drawing-classes, both for instrumental drawing and for free-hand-drawing, the first year's course to be the same for both.

Appended to the report of normal-art-school-visitors is a report of the State-board of examiners on the second exhibition of works from the free industrial-drawing-classes of the State of Massachusetts. The decided superiority of the present over the previous exhibition is spoken of and the former superiority of the Boston schools to those of the other cities is declared to have arisen from their having had suitable casts, models, and flat examples to draw from, which the other schools had not. This want having been partially supplied to the other schools, their improvement is very apparent. The examiners deem a supply of proper models indispensable to the success of these classes. There were exhibited, in 1872, 612 drawings; in 1873, 1,209, made by the pupils of these free drawing-schools. For some reason, several of the schools did not exhibit.

In addition to the drawings of these classes, the classes of architectural and industrial design, established in the Massachusetts Institute of Technology, exhibited some 40 architectural drawings, chiefly original designs, and 150

industrial drawings in color, partly copies and partly original designs, of muslins, cashmeres, carpets, paper-hangings, and oil-cloths.

This latter school, called the Lowell Free School of Industrial Design, is intended to train young men and women in practical designing for manufactures. The students show rapid progress and evince much aptitude for design.

I have given so much space to a summary of the progress in art-education in Massachusetts under the wise and enthusiastic direction of Mr. Smith, because there the experiment of adding to the studies now taught in our free common schools such training in drawing as will enable the children to become skilled laborers is being tried for the whole country, and under favorable circumstances. It will require several years to produce the fullest results, to show the effect of a course of such training carried through the entire school-life of the pupil; but it will be hardly necessary for experienced educators to wait until the completion of this experiment to judge accurately of the relative value of the study.

The verdict thus far in Massachusetts seems wholly favorable. Of the feasibility of popular art-education in this country, Mr. Smith has said, in his *Art-Education*, p. 302 :

"In the matter of art-education, we have not much to learn from the remote past. Almost all that has been done in it, except for professional or trade-education, has been initiated in this century. \* \* But the public and the art-workmen have been ignored in the dispensation of art-education in the centuries gone by so far as means of instruction went."

Mr. Smith qualifies this by referring to the insensible art-education given by the noble buildings and the public art-collections of the old countries. Of the almost immediate deterioration suffered by an art-designer from a deprivation of these familiar art-surroundings he gives a striking instance. Of all this kind of art-training, Americans are and must be long deprived, which is in itself an argument for giving special attention in school to securing *some* art-training. Mr. Smith suggests, however, that there must have been a beginning to all these beautiful creations and that the capacity for art-appreciation and for some art-training is universal, and that, "here as well as elsewhere, the inner education must precede and create the outer;" and adds, "When drawing was by law introduced into the common schools of the State of Massachusetts, there was done by a stroke what it took European nations a good many centuries to accomplish." (Page 309.)\*

---

\* The Massachusetts law is as follows :

#### CHAPTER 248, ACTS OF 1870.

"SECTION 1. The first section of chapter thirty-eight of the general statutes is hereby amended so as to include drawing among the branches of learning which are by said section required to be taught in the public schools.

"SEC. 2. Any city or town may, and every city and town having more than ten thousand inhabitants shall, annually make provision for giving free instruction in industrial or mechanical drawing to persons over fifteen years of age, either in day- or evening-schools, under the direction of the school-committee.

"SEC. 3. This act shall take effect upon its passage.

"Approved May 16, 1870."

To this admirably-worded act, Mr. Smith (pages 11, 12) suggests that after the words "industrial drawing" the two words "and modeling" should be added, as that would include practice in industrial art necessary to modelers, carvers, and all workers in solid materials; also that the two words "or mechanical," following "industrial" as referring to drawing, should be erased, as the general term "industrial drawing" includes the mechanical division and is not a synonym for it, as some have supposed.

The following further extracts from Art-Education, after stating the kind of drawing meant by the law, give a brief but comprehensive view of the result of European experience in general art-training :

"The kind of drawing which the State of Massachusetts requires that its citizens shall have an opportunity of studying is called 'industrial drawing,' and wisely so called, for in that lies a justification of its public action in the matter. \* \* \* \* \*

"The time has arrived when the government of the State of Massachusetts has viewed the matter in the same light, and thus we are upon the threshold of a new fabric: a system of art-education for the State which will undoubtedly foreshadow a national system of secondary education.

"The means whereby such a system would be best organized to meet the requirements of all classes of society and keep supply and demand in their true relationship, has been a great problem to the educationists of this locality, as it has been previously to the educationists of the Old World. There are three sections of the public to be educated: children; adult artisans; and the public generally, who come under neither of the first two divisions. How this has been provided for in most of the European states I may here shortly describe. For children, elementary drawing is taught as a part of general education in most of the public schools; for adult artisans, night-schools and classes have been established in almost all towns or populous villages; and, for the general public, museums, galleries of art, and courses of public lectures on art-subjects are becoming general. Upon the comparative value of these several means there may be and is much difference of opinion, but upon one point there is a general agreement, viz, that *to make national art-education possible it must commence with the children in public schools.*

"After several unsuccessful experiments, that is the conclusion at which, twenty years ago, the educationists of Great Britain arrived, and the progress which has since been made in art-education, and the consequent improvement of industrial art, is evidence enough that the problem had been solved and that they were on the right track. To establish schools of art and art-galleries before the mass of the *community* were taught to draw was like opening a university before people knew the alphabet; but to provide both of these agencies in conjunction with or as a continuation of the instruction in drawing in public schools was like a logical sequence, going in rational order from strength to strength of an unbroken chain, from bud to branch, and from branch to flower, of natural and educational growth.

"While England has appropriated, in Mr. Foster's scheme, all the features of the Massachusetts system of general education that are worth anything, we are borrowing from Great Britain, as well as from other countries, the most valuable portion of their experience in technical education; and I venture to prophesy that, upon a better general basis, we shall erect an infinitely better superstructure so soon as the development of public opinion in this country will furnish us with the means for its accomplishment."

#### THE TEACHERS MUST BE TAUGHT BEFORE THE PUPILS CAN BE.

It is evident that, if we are to have in this country any general knowledge of drawing and of art, especially any of that technical-art-training which shall develop the resources of the country by improving its manufactures and raising up skilled workmen to compete with the skilled artisans of Europe, we must

begin with the primary schools; and to do this successfully art-teachers, who can teach the teachers of the public schools, must be trained; in short, we must apply to this part of our system of public education the same principles and machinery that have already proved so efficient in the general management of our public schools.

Normal schools so called—that is, training-schools for teachers—have become a recognized and essential part of the public-school-systems of the several States; and, to give this principle broader scope and fuller action, educational associations and teachers' institutes are everywhere organized and sustained with the best results. Normal art-schools for training art-teachers, art-classes in the present normal schools, and teachers' classes for instruction of the teachers in drawing by the special art-teachers are the means which must be brought into action, if the study of drawing is to be successfully and generally taught in the public schools. Free industrial-drawing-classes for adults and technical schools for the various applications of art to industries and manufactures are and will continue to be essential; their success will be made certain whenever drawing is thoroughly and universally taught in the public schools, for then, and not until then, can they obtain pupils who have had such preliminary training as will enable them to avail themselves at once of the opportunities afforded in these schools.

#### KNOWLEDGE OF DRAWING ESSENTIAL TO A MASTERY OF THE CREATIVE ARTS.

In the various schools of science, instruction in topographical and mechanical drawing is given, as a matter of course, to those students who are studying civil, mining, or mechanical engineering.

To lay out a plan of grounds; to plot a survey; to map a railroad or canal; to throw a dam across or a bridge over a stream; to build an aqueduct; to devise methods for draining a mine or to erect machinery for its working; to plan engines and machines: all these, the practical work of an engineer, necessitate a knowledge of drawing—industrial and technical drawing—the artistic power applied directly to the practical needs of the world's work.

That a knowledge of drawing is necessary to the architect, and must be mastered by whoever would become one, is self-evident. In this art, which includes so many of the arts, to which sculpture is but subsidiary and painting an adornment, the skill in drawing demanded advances far beyond that required by the engineer.

A familiar knowledge of the history of architecture, as shown in its varying styles, is requisite, as well as the ability to grasp its resources, to master its minute details, and to shape its stubborn materials into forms whose harmony of proportion and beauty of outline shall compel admiration for generations. The precision of detail required of the engineer is equally demanded here, it is true; but much more is also demanded, and drawing, erewhile the humble handmaid of industry, enters royally the serene domain of art.

Wherever, then, architects are trained, either in the studios and offices of private masters or in special schools, drawing must be thoroughly taught.

*Nor can he who plans ships, any more than he who designs buildings, dispense*

with the draughtsman's power. The lines that give beauty and speed and safety, and with them the mastery of the seas, must grow under the pencil of the skillful designer before ever the keel can be laid, the timbers hewed, or the ductile iron be bent into its shapely curves.

The inventions which result in the machines and mechanical contrivances of which the American mind is so prolific must all take shape on paper before they can take other form. They must be drawn before they can be made. In all things which are made by man, in all manufactures, a knowledge of drawing and the possession of the skill which artistic and technical training give are useful to workman and to master.

But drawing is not the only word art has to say to the workers. In addition to purity of outline and clearness of design, to the marvelous beauty and significance of form to which drawing opens the eye, art brings her palette, and points to the varied hues with which nature enriches her productions and whispers to the artisan that she will teach him to emulate nature in these her most protean shapes. To all makers of textile fabrics, art has significant words to say about designs and hues.

#### REFINING INFLUENCE.

In seeking to show clearly the usefulness of a knowledge of drawing and its application to so many forms of industry, its convenience, I have thus far failed to notice the higher and more ennobling influence of art, not only upon the manufactures of a people, but upon their character; the latter preceding the former, for, until the workman becomes refined, until his eye is sensitive to see and his hand facile to reproduce the finer lines of form, the more delicate shades of color, his work cannot improve.

That general art-training, beginning with the teaching of drawing to school-children and faithfully followed out in the different industries and professions where it is applicable, will accomplish this, the experience of Great Britain has demonstrated; and, further, that whatever of money and of labor and time has been expended, to accomplish this result, has been more than repaid by the products of the industries created and improved. Mr. Smith, in the following statement, affirms that—

"Within the last five and twenty years we have seen a wonderful change take place in the money-value of the manufactures of England."

He says, while, owing to labor-saving processes, &c., the cost of production has diminished one-half, the value of the manufactured article has nearly doubled. He accounts for this by stating that—

"Every manufactured article has three elements of value: First, the raw material; second, the labor of production; third, the art-character. The two first, in some few cases, are a large proportion of the value of the whole; and, where no art whatever is displayed, it forms the whole value. But, in a vast majority of the manufacturing products of every country, the elements of cost of material and cost of labor are insignificant in comparison with the third element, viz, art-character. It is this which makes the object attractive and pleasing, or repulsive or uninteresting, to the purchaser, and is consequently of commercial value. In many objects, where the material is of little or no intrinsic worth, the taste displayed in their design forms the sole value or the principal, and it has been the general elevation of that element which has nearly doubled the commercial value of English manufactures."

He states that he has seen an advance in the artistic element from an almost barbaric condition "to the refinement of the greatest artistic epochs, and it has not been an exceptional case or a development in one direction, owing to peculiar circumstances. If we take pottery, glass, porcelain, terra-cotta, metal-work in wrought iron, brass, bronze, silver plate, goldsmiths' work, jewelry, paper-hanging, carpets, parquetry, encaustic tiles, furniture, cabinet-making, upholstery, stained glass, mural decorations, wood- and stone-carving, chasing, enameling, lace-making, embroidery—all show that infusion of taste which has in all cases increased, and in many cases doubled, their value in the market in five and twenty years. Now, just as drawing is the only universal language, so art is an almost universal currency, and among civilized races is universal; with this remarkable characteristic, that let the art in a thing be good art, based upon natural laws and treated with consistency and purity of feeling, and it shall consecrate the material which it ennobles, so that lapse of time will add its value, until antiquity enshrines it." (Art-Education, pp. 17, 18, 19.)

#### SOURCES OF STATISTICAL INFORMATION.

In order to ascertain what opportunities are afforded for art-training and what public art-collections are at present existing in this country, a schedule of inquiries was prepared and sent out from this Bureau, the returns to which, so far as they admit of tabulation, will be found among the statistical tables in the Appendix to the Report of the United States Commissioner of Education for 1873, which will be found at the end of this circular.\*

---

\* The following is a copy of the art-inquiries sent out from this Bureau :

#### INQUIRIES RESPECTING MUSEUMS OF ARCHÆOLOGY AND ART.

Name of museum ?  
 By whom now owned ?  
 Location, { City ?  
               { County ?  
               { State ?  
 When founded ?  
 By whom founded ?  
 Amount of endowments ?  
 Income for past year, { From endowments ?  
                               { From State- or municipal grants ?  
                               { From donations ?  
                               { From all other sources ?  
 Expenditures for past year, { Salaries and wages ?  
                                       { Rent, repairs, &c. ?  
                                       { Collections ?  
 Is admission restricted; and, if so, how ?  
 Number of visitors last year ?  
 Are there special rooms for study; and, if so, how many ?  
 Are there courses of study in connection with the museum ? If so, please specify the course for each year.  
 Number of professors and instructors ?  
 Are lectures delivered in connection with the museum; and, if so, what number, on what subjects, and what are the terms of admission ?

## DRAWING ALREADY INTRODUCED INTO SOME PUBLIC SCHOOLS.

In addition to the introduction of drawing in the public schools of Massachusetts, the free industrial-drawing-classes for adults, and the Normal Art-School

*Collections of museum, (sculpture and carvings.)*

Articles.	No. marble, &c.	No. bronze.	No. terra-cotta.	No. plaster.
Ancient statuary.....				
Copies of ancient statuary.....				
Ancient busts.....				
Copies of ancient busts.....				
Modern statuary.....				
Copies of modern statuary.....				
Modern busts.....				
Copies of modern busts.....				

Articles.	No. marble, &c.	No. bronze.	No. terra-cotta.	No. plaster.	No. wood.	No. copies.
Relievos, ancient.						
Relievos, modern.						

Carvings in ivory? Carvings in wood? Ancient inscriptions in stone? Same in metal?

*Ceramics, glass, &c.*

Articles.	Ancient.	Mediæval.	Modern.
Ceramic ware.....			
Glass ware.....			
Mosaics.....			

*Paintings, engravings, &c.*

Number paintings of old masters : oil ; water-colors ?  
 Number copies of old masters : oil ; water-colors ?  
 Number modern paintings : landscapes ; ideal ; genre ; historical ?  
 Number etchings ?  
 Number engravings in steel ; in copper ; in wood ?  
 Number original drawings ; lithographs ; chromo-lithographs ; photographs ?

*Coins, gems, jewelry, &c.*

(Specimens.)

Gold and silver ware, ancient ; mediæval ; modern ? Coins, Greek ; Roman ; Saxon and English ; of other series ? Medals and medallions ? Gems ? Cameos ? Intaglios ? Jewelers' work, including enamels : ancient ; mediæval ; modern ?

*Miscellaneous.*

(Specimens.)

Illuminated manuscripts ?  
 Rare specimens of binding and printing ?  
 Specimens of armor and weapons ; costumes ; laces ; tapestry ; Chinese and Japanese curiosities ? North American Indian relics, &c.

\_\_\_\_\_  
 (Signature of superintendent.)

Date, \_\_\_\_\_. \_\_\_\_\_.



of Boston, drawing has been taught in the public schools of quite a number of cities and towns in the different States of the Union, both east and west, so that many communities are familiar with the idea of its becoming one of the required studies in the public schools, and in this way a step has been taken towards the general introduction of industrial- and technical-art-training. In all the schools of science in the country, mechanical drawing, at least, is taught.

#### WORCESTER FREE INSTITUTE.

The Worcester Free Institute, at Worcester, Mass., "offers a three-years course of theoretical and practical training in those branches of knowledge that underlie the industrial arts. All students devote ten hours a week and the month of July to practice in the lines of their chosen profession. The mechanics work in the Washburn machine-shop; the civil engineers, in the field and in the office; the chemists, in the laboratory; the architects and designers, in the drawing-rooms." Admirable sets of models for drawing-classes are made by the pupils. Drawing in all its branches enters of necessity into these courses of study; and in the school of design, color enters largely, for these designs are for wall-papers, carpets, and all textile fabrics.

#### LOWELL FREE SCHOOL OF INDUSTRIAL DESIGN.

The Lowell Free School of Industrial Design, at the Institute of Technology, Boston, "is intended to train young men and women in practical designing for manufactures." There is also, in the Institute of Technology, a class of architectural design. These two classes of the institute have been before mentioned in connection with the annual exhibition of the drawings of the free industrial classes of Massachusetts.

#### WOMAN'S ART-SCHOOL, COOPER UNION, NEW YORK CITY.

In the Woman's Art-School of Cooper Union, instruction is given in drawing, wood-engraving, painting, and photography. Instruction is free, the pupils providing all the materials at their own expense, except models or easels.

Admission is by application, with responsible references; attendance, from 9 a. m. to 1 p. m. daily, except Saturday and Sunday. Strict compliance with the rules is expected. The school has no museum or collections. In the Free Night-School of Science and Art, Cooper Union, mathematics, chemistry, mechanics, and natural philosophy are taught, as well as architectural, mechanical, and free-hand-drawing, from copy, cast, and life; also, perspective and modeling in clay. The regular course embraces five years. Ladies are admitted to the classes in the school of science, but not in those of the school of art.

#### PHILADELPHIA SCHOOL OF DESIGN FOR WOMEN.

The Philadelphia School of Design for Women—founded in 1847, incorporated in 1853—is under the charge of Miss E. Croasdale, a graduate of the Government Art-Training-School, South Kensington, London. There are two sessions annually of five months each. Classes meet daily, except Saturday

and Sunday. The hours of study are from 9 a. m. to 2 p. m. The fee is \$20 per session, in advance.

After premising that schools of design are essential in the present competition of skilled labor and that the arts of design are especially suitable for women, the objects of the school are thus stated :

"The aim, then, is the systematic training of young women in a knowledge of the principles and practice of the art of design, to develop and exercise their talents therein, and to qualify them for the practical application of art to the common uses of daily life and in the tasteful shaping and adornment of our manufactures.

"The several branches of industry to which the skill acquired in our school may be applied are so numerous and varied that an attempt to particularize would expand far beyond our limits. Some are obvious, but it would be difficult to indicate a direction in which it is not in some way available and useful."

"The school is divided into three distinct branches of study, only one of which at a time is permitted to engage the attention of the student. They are :

"Class A. Ornament, with its subdivisions into sections.

"Class B. Landscape, with its subdivisions into sections.

"Class C. Human figure, with its subdivisions into sections.

"In each class, a section is devoted to 'color' as applied to the different subjects studied. The order of studies is systematic, each step leading on to the succeeding one in regular progress."

A supplementary class, for the practice of painting in oil, meets under the instruction of a competent professor three afternoons in the week. Tuition in this class is \$20 a term.

This school possesses large collections of material for art-study, comprising 330 casts from antique sculpture, 30 casts from examples in ornament, (antique, Byzantine, Saracenic, Gothic, and renaissance,) several thousand examples for study in the flat, paintings, prints, and drawings; also, an art-library, numbering 111 volumes.

#### SCHOOL OF DESIGN OF THE UNIVERSITY OF CINCINNATI.

The School of Design of the University of Cincinnati is supported from the fund bequeathed to the city of Cincinnati for the purpose of building, establishing, and maintaining two colleges for the education of white boys and girls by the late Charles McMicken, deceased in 1858. Under an act passed by the Ohio legislature in 1870, to enable cities of the first class to aid and promote education, the University of Cincinnati was founded, to be composed of such colleges and schools as the directors may from time to time determine.

The catalogue of the School of Design for 1873-'74 sets forth the purpose of the school as follows :

#### "SCHOOL OF DESIGN."

"The special aim of this school is not merely the study of painting and sculpture, but also the improvement of the industrial arts, by affording to the citizens of Cincinnati, and particularly to the operative classes, a thorough technical and scientific education in art and design, as applied to manufactures, thereby imparting to them such taste and skill in the form and finish of their works, whether large or small, as will always command remunerative employment and a ready sale for the products of their industry.

\* Catalogue of the University of Cincinnati, 1873-'74, pp. 40, 41, 42.

"The advantages which will be derived from this school (if properly sustained by our people) can scarcely be overestimated. Schools of design, which in foreign countries (and in France especially) have long been liberally sustained at the expense of government, have given great superiority to their manufactures in many of the most important branches of industry. This is proved, not only by the results of the great competitive expositions, but by the contents of our own stores and shops. There can be no doubt but that the workmen of this country possess a fertility of invention and an expertness in the application of their knowledge which will enable them to excel in whatever they have the opportunity of thoroughly learning.

"The course of instruction in this school is intended to continue four years and has been framed upon a plan which the best practical experience proves to be necessary to that high degree of excellence which alone can command success.

#### "COURSE OF INSTRUCTION.

##### "*First year.*

"Training of the eye and hand commenced by drawing lines straight and curved; drawing from the flat, (or plates,) beginning with simple forms and progressing to the more complex, (such as parts of the human face, head, and figure,) and terminating with the entire figure, from the flat; shading from flat examples; perspective and anatomy; with illustrations on the blackboard.

##### "*Second year.*

"Drawing and shading from round and solid models; drawing and shading from casts (from nature) of flowers and fruit, and from casts of ancient, mediæval, and modern architectural ornaments; lessons from the human figure in its parts and entire, from plaster-models and casts of antique statuary in the gallery of the school; composition and design, according to the proficiency of the student.

##### "*Third year.*

"Lessons in drawing the human face and form from life; anatomical drawings of the human form; drawing animals, birds, flowers, &c., from nature; composition and design continued, including (for those who desire it) study of color in its various applications, and any branch of the *special studies* which may be provided for in the school.

##### "*Fourth year.*

"Composition and design and special studies, continued.

#### "SPECIAL STUDIES.

"(To be provided for as fast as the resources of the school will permit and in such order as the board shall direct.)

"1. Painting in oil.

"2. Painting in water-colors.

"3. Painting in fresco and distemper.

"4. Sculpture.

"5. Decorative design; designs for patterns for furniture, textile fabrics, oil-cloths, and paper-hangings; ornamental work in metals; wood-carving, &c.

"6. Architecture in its principles and history; also, architectural designs, including plans, elevations, and perspective drawings for buildings; working-drawings for the guidance of mechanics, &c.

"7. Mechanical and scientific drawing, (for machinery, bridges, &c.)

"8. Wood-engraving.

"9. Lithography.

"10. Engraving on metals."

Pupils are admitted free, preference being given residents of Cincinnati; (non-residents may be admitted if there is room.)

Applicants must be fourteen years of age, must give evidence of certain preliminary education, and must be recommended by two responsible persons.

The terms begin on the third Monday of September and close on the second Saturday of June, with a week's vacation at Christmas.

Sessions are held on Monday, Wednesday, and Friday, from 9 a. m. to 1 p. m., and on the evenings of the alternate days, from 7 to 9 o'clock. A public exhibition is held at the close of each term. Prizes are awarded for superior merit to each class at the close of each term. These awards are made by a jury of three competent persons. One school is under the charge of Mr. Thomas S. Noble, teacher of drawing, with Messrs. W. W. Woodward and William H. Humphries, assistants.

The catalogue of pupils in the school of drawing and design during the year 1873-'74 gives the names of 319 students—214 males and 105 females. During the past year a new department, that of wood-carving, has been added to the studies of the School of Design, under the superintendence of Mr. Benn Pitman.

"The opportunity thus afforded to students who had attained some proficiency in drawing to put artistic designs into permanent form has been eagerly seized, and wood-carving has been prosecuted with an earnestness and intelligence that has been alike gratifying to the students and friends of the school.

"Instead of confining the students to an indefinite repetition of the forms adopted by other people and periods, an attempt has been made, by studying, copying, and adopting the infinitely varied forms of beauty to be found in our woods and gardens, and treating them naturally or formally, according to their position and employment, to develop what perhaps might not inappropriately be regarded as pure American art, that is, an art-expression representing the thought and culture of this age and nation."

One hundred and twenty-one pupils attended this department—97 females and 24 males.

The catalogue of the sixth annual exhibition of the School of Design, June, 1874, contained a list of 604 specimens of the work of the pupils, divided as follows :

Antique class, (day,) 46 specimens. Most of the day-pupils are ladies. Antique class, (night,) 50 specimens. Most of the night-pupils are males. Flat-class, (day,) 112 specimens. Flat-class, (night,) 70 specimens.

Original designs, 18 [for cabinet-work, book-covers, frescoes for ceilings, card-case, napkin-ring, store-front, bridge, &c.]

Ornamental design, 29 specimens, of "studies of the character of lines;" 43 specimens of "elementary studies for decorative design;" 167 specimens of wood-carving, illuminated lettering, &c.; 68 specimens of "drawings and paintings from life."

Speaking of the exhibition of specimens of ornamental design the committee remark :

"The course and the object to be attained in the special instruction in the art of ornamental design :

"1. Study of plant-form, consisting of how to treat flowers, buds, ferns, leaves, branching-fruit, &c.

"2. Analysis of form, character of lines, general principles and construction of ornament.

"3. How to conventionalize plant-form, with analysis of Egyptian, Greek, Roman, and the best periods of ornamentation.

"4. Color, elements, contrast, harmony, &c., as applied to decorative design.

"5. How to treat ornamentation as applied to wall-decorations, paper-hangings, metal-work, stone, wood, plain and colored fabrics, modern glass windows, &c.

"The original designs exhibited this year are examples selected from a large number of drawings from many forms and styles, which illustrate the elementary principles of the art of ornamental design, such as straight lines, contrasted with curves and angles or used singly or in various combinations, and plant-forms, conventionalized and adapted to these forms up to a given point, for the most part simplest principles.

"Other of these designs were made by the students of different classes from given subjects, such as table-tops, carved cabinets, book-covers, paper-hangings, clocks, &c. The examples exhibited were selected from some five hundred original designs, composed and drawn by the students."

Of works of art for the use of pupils, the school possesses 40 casts from the antique, copies of the best statues—7 of heroic size, 8 of life-size, and 24 of reduced size; 70 casts of busts, fragments, &c., from the antique; paintings, 6 copies in oil, large size, from Raphael, Murillo, Vandyck, Poussin, and Titian; 9 small-sized oil-paintings, 11 crayon-drawings from antique casts, 47 autotypes from works of old masters, 751 flat examples, and lithographs. In all, 966 specimens of works of art.

This closes the list, as comprised in the information in possession of this Bureau, of special institutions for training in art as applied to industries and manufactures. It is quite probable that there may be in some of the many cities of the country private schools or classes giving this instruction, which are not yet known to this Bureau; but, making all allowance for the existence of a few sporadic schools, the contrast is sufficiently marked between the "four hundred similar schools" in the little kingdom of Würtemberg, with its population of two millions of inhabitants, and the few scattered schools we have enumerated, which are the only provision for industrial- and technical-art-education made in this great country for its forty millions of people.

Having recounted the provisions made for such art-education as is applicable to the industries of the country, let us see what provision is made for the training of artists.

#### NATIONAL ACADEMY OF DESIGN, NEW YORK.

First on this list stands the National Academy of Design, corner Twenty-third street and Fourth avenue, New York.

The schools of this academy have been in operation, *free* for both sexes, day and evening, since 1826.

There is an antique (statuary-) school, life- (nude-) school, the painting-school, school of anatomy, and school of perspective.

"Students should have mastered the simple elementary difficulties of the art, as the academy-schools are intended for professional students, who have already acquired a certain degree of skill in the use of the crayon or pencil, rather than for mere beginners." All students must first enter the antique (or statuary-) school. "The qualification for entering is an elementary practice in

drawing from the round, which will enable the applicant to show to the council a fair shaded crayon from *a cast* of a hand, foot, head, or other part of a statue of the human figure. A thorough and successful course of study from the antique is required before the student is advanced to other classes."

Before entering the life-school, "an approved drawing of a full-length statue must be submitted to the council.

"Students of the life-school only are eligible to admission to the painting-school at the discretion of the council." The schools are open from 7 to 9 every evening through the autumn and winter.

The lectures of the academy, both technical and general, are open to all classes of students and to the members and fellows of the institution. An annual exhibition of selected drawings by the students is held each spring, continuing for two weeks, when the annual distribution of awards of merit is made by the president. The students for 1873 numbered 205 in the antique school, 71 in the life- and 25 in the painting-school.

The National Academy of Design is an association of artists. It consists of ACADEMICIANS, who are the body corporate. Members are elected as academicians only at the annual meetings; they must be either associates or honorary members of the academy and they must be exhibitors at the annual exhibition of the year; must be recorded by an academician at least six days before the day of the annual meeting—the second Wednesday of May. A vote of two-thirds of the members present is required to elect. To confirm and legalize this election, the new academician "must, within one year thereafter, present to the academy a specimen of his art, to be preserved in the gallery of the institution."

ASSOCIATES must be professional artists; must be nominated and elected in the same manner and under the same conditions as academicians; and must, within a year, present to the academy a portrait of themselves on canvas, 25 by 30 inches.

FELLOWS.—Friends of art may become fellows of the academy for life by payment of \$100 to the fellowship-fund of the academy. Fellows receive five season-tickets to the academy-exhibitions; are invited to all receptions of the society, have access to the lectures and to the library and reading-room, and can nominate two students annually to the schools.

The academy occupies a beautiful building designed and erected for its use and well adapted for its purpose, the whole upper story being occupied by galleries for the public exhibitions and the lower stories with rooms for instruction.

The academy gives each fall and spring an exhibition of fresh modern works, loaned for the occasion; 35,000 persons visited the exhibitions in 1873. The income derived from the admission-fees furnishes the chief support of the schools, which also enjoy the income arising from the bequest of \$50,000 made by the late academician and treasurer of the academy, James A. Snyder.

The academy possesses casts of 60 full-length antique statues and 100 ancient busts for the use of the antique school; also, a few marbles, which have been presented to the library. It also has about 200 pictures by modern

American and foreign painters, half landscape and half *genre*, and 200 oil-portraits of artists, members of the academy. It has a library of costly art-works, numbering about 600 volumes, with a collection of fine engravings and photographs of works of the old masters.

Having shown something of the present condition of the academy, with its flourishing schools and its popular exhibitions, it will be of interest to trace its origin, and see how, from small beginnings, it has arrived at its present prosperity and has come at last to be housed in so fitting a palace.

"In the early part of the autumn of 1825, \* there was formed in the city of New York, a 'Drawing Association,' for art-study and social intercourse, which embraced among its members the greater portion of the artists then in the city. This association prospered in such a degree that it soon became necessary to extend its field of operations. The attempt to effect this object resulted in the foundation, on the 19th day of January, 1826, of the present National Academy of Design. The 'Drawing Association,' thus remodeled and renamed, adopted a constitution and by-laws, and elected Samuel F. B. Morse, president; Henry Inman, vice-president; John L. Morton, secretary; and Thomas S. Cummings, treasurer.

"The new academy was chartered by the legislature of New York on the 5th day of April, 1828.

"Of the twenty-five original founders of the institution, only five are now living, (October 21, 1863:) Messrs. Morse, Cummings, Ingraham, Durand, and Evers."

The society having no hall, held its meetings in a room generously loaned by the Historical and Philosophical Societies, in the old Alms-House Building in the City-Hall Park, fronting on Chambers street. The first annual exhibition of the academy was held in 1826, in a small room, 50 by 25 feet, in the second story of a building corner of Broadway and Reade streets; lighted in the evening by six ordinary gas-burners, advertised as a notable attraction, and "really notable as the first instance on record of a public exhibition of pictures at night." The first exhibition resulted in loss, for which the members were assessed.

The society had rooms in different places and occupied gradually-increasing accommodations till, in 1850, they purchased a property on Mercer street, in rear of Broadway, with a lease of a lot on Broadway giving them an entrance. "A *suite* of six fine galleries was erected here, with a total length of 164 feet and a breadth of 50 feet." After five years, this property was sold for \$120,000, netting the institution a clear return of \$69,000. The academy occupied various places and gave its annual exhibitions in different buildings. Its thirty-ninth exhibition, in 1864, was held in the galleries of the building known as the Institute of Art, No. 625 Broadway.

The site of the present beautiful edifice, on the northwest corner of Fourth avenue and Twenty-third street, was purchased in the autumn of 1860 from Mr. William Niblo, at a cost of \$50,000.

Numerous designs for a building were, at the request of the academy, submitted by the leading New York architects; that of Mr. P. B. Wight being, with some modifications, finally accepted. This, however, proposed so costly

---

\* From Historical Memoranda of the Academy and its Exhibitions, compiled by Thomas S. Cummings, N. A., and deposited in the corner-stone of the present academy-building at the ceremony of laying the corner-stone, Wednesday, October 21, 1863.

a building that, after long debate upon the wisdom of discarding it and putting up a plain building within the means of the academy, it was finally decided to appeal to the "well-known and ample sympathy of the large body of *connoisseurs* and lovers of art outside of the academy, although it had been the boast of the society heretofore, in all its long and varied existence of nearly forty years, to have lived and prospered without any exterior aid whatever."

It was finally decided, January 14, 1863, by amending the constitution, to provide for the admission of a new grade of fellows, with certain stipulated privileges, on the payment of \$100 for a life-interest or \$500 for the same interest in perpetuity, with power, in the latter case, to transfer or to transmit the same.

That this scheme under the wise action of the committee to whose care it was committed proved a great success is shown by the list of subscribers to the fellowship-fund up to February 1, 1864.

This list numbers five hundred and seventy names, none representing less than \$100, while thirty-seven persons gave \$1,000 each, seventy-five persons gave \$500 each, one person gave \$300, and ten persons \$250 each, the whole aggregating the sum of \$121,950.

The corner-stone of the new building was laid with imposing ceremonies on the afternoon of Wednesday, the 21st of October, 1863. The reception-rooms of the Century Club, in Fifteenth street, were loaned to the committee as a place of rendezvous, and the procession started from there.

The president of the academy, Daniel Huntington, called the assembly to order. Prayer was then offered by the Rev. Dr. Vinton. The vice-president, Henry Peters Gray, chairman of the fellowship-fund, then gave a brief history of the academy and its former homes, from which I take the following extract :

"I said this was certainly a novel spectacle. Is it not, when we reflect that this is the first academy of fine arts this side of the Atlantic, the first instance of the building of an academy of design, not only in the United States but on this continent, governed and directed entirely by artists, carried on strictly under academic regulations, and dependent heretofore wholly on our own resources. And now, strongly wedded to public sympathy by a new order of members—its "*fellows*"—their subscriptions will enable the institution to appear before you in a form of elegant architecture, which, we trust, will be a characteristic feature of this locality and an ornament to the metropolis."

Appropriate addresses were made by the following gentlemen: Parke Godwin, esq., William Cullen Bryant, Hon. George Bancroft, the Rev. Dr. Bellows, and the Rev. Dr. Chapin. The accidental absence of the venerable Professor Morse, the first president of the academy, was deeply regretted. The architect, with a few fitting words, presented to the president, on the part of himself and the builders, a silver trowel with which to lay the corner-stone.\*

The president, after returning thanks in the name of the artists and the members of the academy, proceeded to lay the corner-stone. As usual, certain com-

---

\* The trowel bore the following inscription: "Presented to Daniel Huntington, president, on the occasion of laying the corner-stone of the National Academy of Design, New York, October 21, 1863, by Alex. Maxwell & Co., marble-cutters; Geo. F. Coddington, jr., mason; Wm. S. Hunt & Son, carpenters; S. B. Althouse & Co., iron-workers; P. B. Wight, architect."



memorative articles, relating to the academy, to the city, and to the country, were placed in the copper box which was inserted in the corner-stone.

The building whose corner-stone was thus formally laid occupies the entire lot on the corner of Fourth avenue and Twenty-third street. It is 93 feet 9 inches in length on the avenue, with 80 feet front on Twenty-third street.

[From architect's description of the Academy of Design building.]

"It is three stories high besides the cellar. The basement, entered from Fourth avenue, contains rooms for the janitor and ample accommodations for the School of Design, which has three studios on Fourth avenue, with a hall for casts and models, all well lighted; in all, a space of 47 by 68 feet. The life-school occupies a hall on the north side, 27 by 54 feet. The principal story is reached by a double flight of steps on Twenty-third street. The entrance is through a handsome arched doorway, from which a hall 18 feet wide runs nearly the length of the building. Reception-rooms, the library, and a lecture-room, (which is directly over and the same size as the life-school-hall,) occupy this floor. The whole of the upper story is given to exhibition-galleries."

"In the center is a hall 34 by 40 feet, divided by a double arcade, supported on columns of polished marble. Around this are the galleries all opening out of it: one 30 by 76 feet; one 22 by 46; one 20 by 40; one 21 by 30, all lighted by sky-lights; also, a gallery for sculpture 21 feet square, lighted both from the roof and the side."

The woodwork is of oak and walnut; the halls and vestibules are floored with mosaic of tiles.

"The walls of the basement-story are of Westchester County gray marble, with bands of North River graywacke; the walls of the first story, of white marble, with similar bands; and of the third story, of white and gray marble, in small oblong blocks, forming a pattern of checker-work. The building is surmounted by a rich arcaded cornice of white marble.

"The School of Design, in the basement, is lighted by wide double windows, with segmental arches, each pair of arches supported in the middle on a clustered column, with a rich carved capital and base, and resting on each side on a carved corbel. All the other windows in the building have pointed arches and those of the first story have their archivolts decorated by voussoirs of alternately white and gray marble. There are no windows in the upper story upon the street, but circular openings for ventilation, filled with elaborate plate-tracery. The principal entrance is very high. A broad archivolt, enriched with sculpture and varied by voussoirs, alternately white and gray, springs from columns, two on each side, of red Vermont marble, with white marble capitals and bases. Under this the tympanum above the door is filled with an elaborate pattern, in mosaic, of small tiles. The double flight of steps leading to this door makes an important feature of the building, being entirely of marble, having, under the platform, a triple arcade, inclosing a drinking-fountain, and being richly decorated with sculpture.

"As will be inferred from the above description, the style of architecture is that revived Gothic, now the dominant style in England, which combines those features of the different schools of architecture of the middle ages which are most appropriate to our nineteenth-century-buildings."

"All the carving is carefully studied from natural forms. The flowers and leaves of our woods and fields have furnished the models for all the sculpture, which has been designed, under the direction of the architect, by the stone-carvers who have done the work. For this purpose, a special appropriation was made. The carving was not included in the contract, but paid for by the day, as it was done.

"The builders of the academy have seized upon the opportunity afforded them by the erection of their costly building to show, by actual example, the proper and only possible way of making a building rich in sculptured ornament.

"The stone-carvers have cut these capitals and archivolts with the feeling and purpose of sculptors executing independent and original works of art. The result thus far attained has

shown that the only difference between a carver of good leaf-capitals and the producer of heroic human sculpture is in the amount of his knowledge and power.”\*

So much space has been given to a description† of this building of the National Academy of Design, because it is in itself an exponent of the ideas and purposes of the artists composing the members of the academy. It furnishes an example of the results possible when artistic methods are used; and, whatever may be the verdict upon the building itself, it is certain that, if we are ever to have in this country any school of architects and builders and any worthy buildings for any purpose, it can only come in pursuance of the system adopted and described by the architect of this building. When every child in the public schools is taught to draw, then it may be possible to have artisans who shall also be artists and workmen who will be capable of, and delight in, putting beauty into their work.

#### YALE SCHOOL OF THE FINE ARTS.

Next in importance as a training-school for artists is the Yale School of the Fine Arts, a department of Yale College, New Haven, Conn.

This department was founded by the late Augustus Russell Street, of New Haven, who erected, upon the college-grounds, a massive stone building, with ample galleries for the exhibition of art-collections and with commodious classrooms and well-lighted studios. Mr. Street endowed the department with \$250,000, of which the sum of \$200,000 was expended in erecting the building. The objects of the school are set forth as “1st, the educating of practical artists; 2d, the furnishing of men, desiring a liberal education, an acquaintance with the practice, principles, and history of art, by means of practical work and lectures.” The faculty of the school, in addition to President Porter, consists of the following professors: John F. Weir, N. A., M. A., professor of painting and director of the school; D. Cady Eaton, M. A., professor of the history of art; John H. Neimeyer, professor of drawing; Frederick R. Hovey, instructor in geometry and perspective. The chairs of sculpture and of architecture are yet unfilled. There were twenty-four lectures upon the principles, means, history, and philosophy of art given during the course. The lectures of Professor Eaton were finely illustrated from his large and admirable collection of photographic transparent slides, by means of which Greek temple, Gothic cathedral, or ancient statue is at once reproduced

---

\* I am indebted to the courtesy of T. Addison Richards, esq., corresponding secretary of the National Academy of Design, for a copy of the pamphlet edited by him and “published by the order of the council,” containing the account of the history of the academy, the description of the ceremonies at the laying of the corner-stone, and the full description of the building by the architect, from which I have compiled the preceding summary of the history of the academy, &c.

† It was a part of the plan of this paper that it should be accompanied with illustrations of the several art-buildings, giving both the elevations and ground-plans. The Academy of Design, New York; the Brooklyn Art-Association building; the Art-Museum, Boston; the Pennsylvania Art-Academy’s new building in Philadelphia; and the Corcoran Art-Gallery, Washington, were desired; but, finding that suitable plates of all these buildings cannot be obtained, it has been thought best to give up any attempt at illustration.

with an effect beautiful and startling—an example of how modern art may be made to illustrate that of the ancients.

The course of study is based upon progressive methods with the human form, as is the practice in the best schools of art in Europe. "It affords the special-art-student a thorough acquaintance with the practice and theory of art and combines with this a knowledge of its history and philosophy. It aims to embrace the widest possible field of usefulness in connection with the knowledge and promotion of art and offers facilities to the art-student that are unsurpassed by any art-school in the country." Many of the students of the Sheffield Scientific School, another department of the college, are also students in this department. There were one hundred and four students in all in the art-department. The art-building contains two large picture-galleries, admirably arranged and lighted. In one is a historical collection of the early Italian school of painting, numbering one hundred and twenty examples, known as the Jarves collection, now the property of Yale College. The Trumbull collection of paintings, by Col. John Trumbull, which is very rich in portraits of revolutionary heroes, is in the other gallery. There are some twenty other paintings belonging to the college, and about one hundred casts of some of the best antique statues, and a few marble statues and busts. There is also the cast from the bronze gates of the Baptistry at Florence, by Lorenzo Ghiberti. This reproduction, made at Kensington, is very grand. The great doors are placed at one end of the gallery containing the Jarves collection. An annual exhibition is held in the summer, when the permanent collection is increased by a loan-collection of pictures contributed by the leading American artists or by private owners. These annual exhibitions have been very attractive and successful. "The proceeds are devoted to the purchase of casts and material adapted to instruction in the school."

#### PENNSYLVANIA ACADEMY OF FINE ARTS.

Philadelphia possesses the oldest art-academy in the country. This originated in a meeting held in the year 1805 in Independence Hall, by some seventy of the leading citizens, forty-one of whom were lawyers.

An act of incorporation of the Pennsylvania Academy of Fine Arts, obtained from the legislature, was approved by the governor March 28, 1806.

This act recites the erection of a building as then in progress; states that "it is the manifest interest of free governments to cherish and encourage institutions of such nature;" authorizes the use of a common seal and the holding of real estate not to exceed the value of \$2,000 yearly rental; provides for the election of a president and twelve directors, and names the persons then holding these positions. The first president, George Clymer, was one of the signers of the Declaration of Independence.

The building, long one of the notable objects of interest in the city, was situated on Chestnut street, between Tenth and Eleventh streets. It was a stuccoed building, in Greek style, with a portico supported by a couple of simple Ionic pillars, and was set back from the street in a little court-yard, *which gave it an air of seclusion, in pleasant contrast with the crowded city-*

street. Some classic vases and antique statues and busts in the yard and under the portico sufficiently indicated its purpose. Within were stored many valuable and curious works of art.

Before the charter had been obtained, the members of the academy had written to the American minister at Paris, asking him to procure for them, through the courtesy of the Emperor, a collection of the casts from the antique statues then stored in the Louvre. Through the energy of Nicholas Biddle, then, at the age of eighteen, at Paris, as secretary of legation, a very desirable collection of some fifty objects, including copies of the most famous statues, was forwarded early in 1806. In March of that year, these casts having been received and the building finished, the first exhibition was opened by an address from President Clymer. The first of the regular annual exhibitions, however, which have continued so many years, was held in 1811. Judge Hopkinson delivered the oration. The receipts from admission during the season of six weeks amounted to \$1,860.

The receipts from admission to the academy's collection have sufficed for many years for the support of its free schools of art. By purchase from time to time, and by gifts, the academy gradually accumulated a most valuable collection of casts, of paintings, and of statuary.

In 1845 the building was greatly injured by fire, and many of its art-treasures, among them a noble Murillo, of undoubted authenticity, were destroyed.

The building was repaired, new art-works were purchased and were given from time to time, and the institution increased and prospered. The academy possesses some 256 casts from the antique, a gallery of ancient and modern paintings of about 150 pictures, some fine pieces of modern sculpture by both European and American sculptors, and a very valuable art-library. It became evident that, if its growth were to keep pace with that of the city and its facilities for teaching with the demand, it must provide for itself ampler quarters. A movement for this purpose was undertaken, and an advantageous sale of the property on Chestnut street was effected, at the price of \$140,000.

A supplement to the act of incorporation, modifying the old charter, was obtained from the legislature in February, 1872, and accepted by the stockholders.

The amended charter confers full power to establish art-schools and galleries, to publish books and other works, and, "by such other methods as in their judgment may seem proper, to promote the knowledge and enjoyment of, and cultivation in, the fine arts in the city of Philadelphia."

It repeals the previous limitation as to amount of real estate to be held and authorizes the corporation to receive all "gifts, legacies, and devises" of works of art or of money or of lands given for the purpose of promoting art. It provides for issue of 10,000 shares of stock at par value of \$100 each and for the redeeming of the previous stock at rate of \$25 per share. The by-laws provide for the establishment of schools and for annual exhibitions.

Through the energy of Mr. James L. Claghorn, president of the academy, large subscriptions of money have been obtained for the new building: 23 citi-

zens subscribed \$10,000 each; 7 gave \$5,000 each; 7 gave \$2,500 each; and there are many subscribers of smaller sums.

In the arrangement of the new building, Mr. John Sartain, for many years the active secretary of the academy, has given the result of his long experience to secure the best possible facilities for students and also the best arrangement of the galleries for exhibition.

The corner-stone of the new academy-building was laid with appropriate ceremonies on Saturday, the 7th of December, 1872. A letter was read from the venerable Horace Binney, the sole survivor of the seventy who met in Independence Hall to form the academy in 1805.

The new building stands on the southwest corner of Broad and Cherry streets, with a front of 100 feet on Broad and a depth of 258 feet on Cherry, with a street on each of its three sides and an alley and open space most of the remaining side, so that it has abundant light and is free from risk of burning buildings. It is meant to be fire-proof throughout. It is to be built of brick, with stone dressings and sculptural decorations in terra-cotta. The front on Broad street will be imposing, with a grand central arched window above the main entrance and with large arched windows on either side the entrance. It will be further enriched with carved polished marble columns, with sculptures, bas-reliefs, and with ornamental tiles inlaid in mosaics. The architects' plan of the elevation shows a very noble and beautiful building, worthy to be the home of art. The architects are Messrs. Furness and Hewitt.

The building, with its fittings, will cost, it is estimated, \$400,000. The land cost \$100,000. The lower story is devoted to the uses of the schools, and is admirably planned, with every facility for drawing-, modeling-, and painting-classes. Here the valuable collections of casts will be placed. A large hall is provided for lectures. The upper story is devoted to galleries, of which there are seventeen. One of these will be called the Gilpin Gallery and will be devoted to the works purchased by the income of the fund, now amounting to nearly \$200,000, left for this purpose by Henry D. Gilpin, a former president of the academy.

Besides the collections formerly belonging to the academy, several additional collections have already been given, so that the academy will open its new galleries with much greater treasures than it had when it left its old hall.

The art-schools, which were formerly most flourishing, have been of necessity mostly suspended until the academy can occupy its new quarters, which will be by the close of another year, when Philadelphia will possess unquestionably the finest building devoted to art-purposes in the country and will offer to art-students unequaled facilities.

It will thus be seen that the future of art-education in Philadelphia is most promising.

#### COLLEGE OF FINE ARTS, SYRACUSE UNIVERSITY.

The Syracuse University, under charge of Chancellor Winchell, has, during the past year, opened the College of Fine Arts as a department of the *university*, in which it is proposed to give a thorough training both in the

theory and practice of art. The course includes free-hand-drawing, architectural drawing, oil-painting, photography, with lectures upon the general principles of esthetics, art-literature, history of the fine arts, classical mythology, and Christian archæology. The faculty consists of George A. Comfort, A. M., dean and professor of esthetics and history of the fine arts; Archimedes Russell, professor of architecture; Joseph Lyman Silsbee, A. M., professor of architecture; Henry C. Allewelt, professor of decorative art; Sandford Thayer, professor of painting; George K. Knapp, professor of painting; the chair of drawing is not filled at this date; Ward V. Ranger, professor of photography. At present, courses in architecture and painting only have been organized, but it is proposed to include instruction in all the fine arts.

The beginning of an art-collection and of an art-library has been made. With the aid of a very powerful lantern, Professor Comfort illustrates his lectures by transparencies of the chief buildings and works of art.

Although lacking, as yet, the ample foundation which the Yale Art-School possesses, it aims at similar purposes and results.

Several of the colleges of the country have introduced some instruction in the history of art and have made a beginning in the way of an art-collection, believing that some knowledge at least of the history of art was requisite if their graduates were to possess an education that could be properly termed liberal.

#### HARVARD UNIVERSITY.

Harvard University, at Cambridge, Mass., possesses a very valuable art-collection in the Grey collection of engravings, given it by Francis Colley Grey, of Boston, in 1856, who also provided means to defray the expense of its care and increase. The endowment-fund is now \$19,155.49. This collection comprises about 6,000 choice engravings by the most eminent Italian, Dutch, and German masters. Many of the prints have been photographed, and sets of these photographs can be purchased and are very desirable. The collection is in charge of a curator and is deposited in one of the rooms in the college-library.

#### UNIVERSITY OF MICHIGAN.

The fine-arts-collection of the University of Michigan was commenced in 1855. It comprises a gallery of casts from the Louvre and from Berlin; some two hundred reductions and models in terra-cotta and other materials, specimens of antique art mostly, from the Musée Bourbonica, Naples; architectural engravings and photographs from Greece and Italy; the Horace White collection of historical medallions, comprising, first, 450 casts from antique gems in the Royal Museum at Berlin, illustrative of ancient history; secondly, over 500 casts illustrative of mediæval history and of the renaissance-period; thirdly, about 400 medallion-portraits of leading personages in modern history. There are also two modern statues by Randolph Rogers, "Nydia" and "Ruth Gleaning;" several copies of modern statues, busts, and reliefs by Michael Angelo, Canova, Thorwaldsen, and others.

In the engineering-courses, mechanical drawing is taught. A course in architecture is contemplated, but not as yet organized.

#### CORNELL UNIVERSITY.

Cornell University provides in its school of engineering for a four-years course and in its school of architecture for a similar course, with a post-graduate-course of two years additional.

The foundation of a museum of fine arts has been laid by deposit with the university, for use of the faculty and undergraduates, of the following collections: (1) The White collection of historical medallions, including all the casts of Eichler of Berlin, namely, 2,000 copies of antique gems in the Royal Museum, 500 casts illustrating mediæval and renaissance-history and art, and over 400 historical medallion-portraits; (2) a valuable collection of photographs illustrative of architecture and art applied to manufactures; (3) paintings in oil, including portraits, by Carpenter, of Professor Goldwin Smith and George William Curtis, presented by President White; some bronzes and busts, and many portfolios of engravings, including the Arundel Society's publications and the Berlin Museum series.

#### ROCHESTER UNIVERSITY.

The Rochester University, which possesses quite a valuable archæological museum, has begun what it is hoped may prove to be the nucleus of an art-collection. It has a few portraits and other paintings, a fine collection of engravings and autotypes of rare engravings and drawings of the old masters, a few casts, a collection of photographs and chromo-lithographs for illustrating lectures on architecture, and a small, well-selected library of valuable art-works.

A course of weekly lectures on art is given to the senior class by President Anderson. Writing about this beginning and regretting its present inadequateness, President Anderson adds, "But our institution is young, and my object has been to set afloat the idea of an art-department in such a way as to make, its realization a necessity for my successors, if I cannot accomplish it myself."

#### COLLEGE OF NOTRE DAME.

The College of Notre Dame, near South Bend, Ind., possesses a collection especially rich in objects of religious art, it being the recipient of many gifts from European friends, comprising choice carvings, metal-chasing, and antique coins, gems, and jewelry. It has also a few pieces of statuary, a few paintings, and many hundreds of engravings.

#### VASSAR COLLEGE.

Vassar College, while laying no claim to be in a "special sense an art-school," gives much attention to teaching drawing and painting, with lectures on the history and theory of the arts of painting and sculpture and on the principles of decoration. The college possesses, (1) a collection of 500 oil- and water-color-paintings by living artists; (2) a collection of plaster-casts of ancient and mod-

ern sculpture imported from the house of Antonio Vanni ; (3) a collection of photographs from sculptures, paintings, architectural works, and from original drawings of the old masters ; and (4) a valuable art-library of 600 volumes.

These constitute the facilities for art-training, and the art-collections possessed by the 323 colleges of the country, as far as is known to this Bureau.

#### PUBLIC ART-GALLERIES AND MUSEUMS.

It remains now only to consider the public art-collections and the steps being taken towards the establishment of art-museums in connection with art-training, which may be expected to accomplish in a measure for this country what the South Kensington Museum, with its schools, has so notably accomplished for Great Britain and the world.

#### METROPOLITAN MUSEUM OF ART, NEW YORK.

First in this list, if measured by its present status, stands the Metropolitan Museum of Art of the City of New York, temporarily placed in the noble Douglas Mansion, No. 128 West Fourteenth street, while waiting the completion of the museum-building in Central Park. It is rather by reason of the possibilities of future usefulness suggested than by its own collections that it awakens interest and hope. It has already demonstrated since it opened in Fourteenth street that the general public take interest in art-museums when the collections are worthy of interest and when access to them can be had without charge, as it can to the leading galleries and museums of the continent, the visitors averaging 1,000 a day on Monday, the "free day," and 60 a day on other days, when 25 cents admission-fee is charged.

It has also shown in a small way what the Manchester art-loan-exhibition of 1857 demonstrated in a way that amazed those who before supposed that they possessed some adequate conception of the wealth of art-treasures existing in Great Britain, namely, the great and unsuspected wealth of the community in rare, costly, and curious works of art. It is in the loan-collections of the museum that the public interest has centered ; for in these, for the first time to many, opportunity has been afforded to see specimens of the wonderful productions of ancient and mediæval artists and artisans.

The marvelous little bell, made by Benvenuto Cellini, is a revelation of the wondrous skill and beauty of the jeweler's work of that age and makes credible even that artist's estimation of his own skill.

The large and beautiful collection of ceramics was in itself a notable feature of the museum. Here could be seen fine specimens of ancient and modern oriental porcelain, and that of Sèvres, Dresden, and England.

The gallery containing the loan-collection of modern paintings had fifty-nine masterpieces—better specimens of the leading continental and English artists than could be found together elsewhere in the country—while the fifty-two paintings, which comprised the loan-collection of pictures by the old masters, contained some genuine surprises, notably the Tintoretos and the Titians.



The following summary of the different loan-collections, made by a person familiar with them, will give some idea of their extent and value :

"Account of the loan-collection in the Metropolitan Museum of Art in New York, in the summer and autumn of 1873 :

"1. Examples of modern painters of the French, Belgian, English, Spanish, and German schools of art, including Gérôme, Meissonnier, Zamaçois, J. M. W. Turner, Alma Tadema, Madrazo, Troyon, Rosa Bonheur, Boughton, &c., arranged in one gallery.

"2. Paintings by old masters of Italian, French, and Flemish schools, arranged in one gallery.

"3. Old *repoussé* and enameled watches, of the seventeenth and eighteenth centuries; antique porcelain and patterns of Italian, French, Chinese, Japanese, German, English, and Flemish porcelain-manufacture; ancient Greek or Etruscan vases; antique carvings in wood, ivory, &c.; examples of metal-working in gold, silver, bronze, copper, &c., of the sixteenth and seventeenth centuries; oriental and European enamels upon metal; many specimens of oriental porcelain furnished by Mr. Avery; European porcelain loaned by Mr. William C. Prime.

"4. Flemish, French, English, and Italian illuminated manuscripts upon vellum, of the fifteenth and sixteenth centuries; early-printed books upon vellum and paper; exquisite specimens of ancient and modern book-binding, (many of these loaned by Mr. Robert Hoe, jr.)

"5. Old arms and armor.

"6. Engravings upon wood, etchings, and engravings, by artists of the sixteenth and seventeenth centuries."

The reflection that naturally follows a consideration of the aggregate treasures collected by these different individuals is that what has been done by these persons singly and without concert can surely be accomplished by a corporation which knows beforehand just what it wants and is in no haste, but can take sufficient time and money to enable it to make such purchases as are desirable, looking always, not to a mere aggregation of numbers, either of collections or of specimens, but adhering to a definite plan and remembering that one perfect art-specimen is worth hundreds of inferior ones. Again, to be of real value, these collections must be so arranged, and knowledge in regard to them must be so accessible, that any one wishing to master a certain department illustrated in the museum can have the facilities for doing it. When that time comes, the people will find that *they* have a real interest in art-collections.

The Metropolitan Museum at present offers to the public no courses of study, no lectures, no instructors. When it can afford these facilities, and thus demonstrate its practical relation to the interests of the public, it will have developed that vitality which will insure growth. It may well be questioned whether the public funds should be appropriated to making merely a pleasant lounging-place for the public; but that the building-up in New York of an institution similar in its purposes to the Kensington Art-Museum would be a wise thing for the people of New York to do seems well-nigh capable of demonstration.\*

\* As long as civilization is allowed to pursue its course, however tastes may change and whatever developments may be wrought, the stamp of good, honest, skillful, and cultured art-industry will not only preserve its value, but pay compound interest as well. The best example I know of this is that of the South Kensington Museum and its contents. In 1851, the English schools of design were put under the control of a hard-headed business-man, who grasped the whole subject of art-education and saw its relationship to industrial art. He saw that two things were needed: a museum of industrial art and art-masters to give instruction. Beginning with a grant of \$50,000 to purchase works from the exhibition of 1851 and an

One thing has been shown, that, until the museum can procure its own collections, there exists in the community the material and the spirit that makes possible such temporary loan-collections as may from time to time be desired for educational purposes, and that, if the directors are far-sighted enough to desire it, New York has it in her power to establish the art-training museum for America. While speaking of loan-collections, it may not be out of place to suggest that what is true of New York is true of most of our cities and large towns, namely, the existence of a sufficient number of works of art and of curious artisan-work in the hands of private owners to form a valuable and interesting public collection for the delight and instruction of the whole community. In this way, art-culture can be readily fostered. The recent charitable art-loan-collection in Baltimore surprised the city by the value and beauty of the treasures displayed and attracted throngs during its exhibition. A large sum was realized from the entrance-fees.

There is hardly a city in the country that could not make a creditable art-exhibition.

The Metropolitan Museum of Art, founded by a committee appointed by a public meeting held in New York City in November, 1869, was incorporated April 13, 1870. It was endowed by the liberal gifts of individuals with about two hundred thousand dollars, most of which has been expended for rent, curatorship, &c., and in the purchase in Europe, in 1870, by Mr. William C. Blodgett, of a collection of paintings of old masters. One hundred of these were bought in Brussels and seventy-four in Paris. The pictures are authenticated as genuine and in good condition by two well-known European experts. Among these are many valuable specimens.

The museum received a grant of \$15,000 for 1873. Its expenses for rent were \$15,000; for wages and salaries, \$5,500. Only about \$1,300 were spent upon collections during the year. It had, however, to move into its present quarters.

Besides the Blodgett collection of pictures, it possesses two pieces of modern statuary and one marble bust.

---

annual appropriation which has increased every year, Mr. Cole has created a museum of industrial art which is one of the joys of the whole earth. Of course, economists would sometimes start up in the House of Commons and oppose the grants to art as a waste of public money, and oppose the appropriation to the museum as extravagant outlay, which would bear no return. I say it with shame, also, that others opposed the expenditure upon the museum. Mr. Cole's answer to his critics was unique; and since it was given, no one has yet had the temerity to find fault. It was this: "Gentlemen, the nation has expended a certain amount of money in buying up majolica plates and Cellini vases, cabinets, and examples of art-workmanship in every material and style and period. If it repents of its bargain, I am prepared to find a responsible committee to take the collection off the nation's hands at the price given for it, and pay interest and compound interest for the money which has been sunk." This set the economists athinking and inquiring; and they found that so well had purchases been made, and so greatly had masterpieces of industrial art increased in value, that, if the collections were brought to the hammer, the nation would be unnumbered thousands of pounds in pocket, besides having increased the value of its own industrial manufacturing products by about 50 per cent. through the influence of art-culture and the examples displayed in the museum. Since then little has been heard of waste of public money by investing in objects of art for public purposes.—(Art-Education, Scholastic and Industrial.)

The Di Cesnola collection of antiquities, from the Isle of Cyprus,\* now belonging to Mr. John Taylor Johnston, is deposited with the museum and has been arranged by Gen. Di Cesnola himself. "It occupies the whole of the eastern side of the building, including the conservatory and the passage which connects it with the picture-gallery on the ground-floor." This collection comprises some one thousand pieces of sculpture, some twelve thousand specimens of ceramics, and about two hundred pieces of gold and silver ornaments.

#### MUSEUM OF FINE ARTS, BOSTON, MASS.

Next in importance and in promise stands the Boston Museum of Fine Arts, incorporated in 1870. The twelve incorporators who were named in the act, and, in addition, three persons to be annually appointed by each of the following corporations: Harvard College, the Boston Athenæum, and the Massachusetts Institute of Technology, and, *ex officio*, the mayor, the president of the board of trustees of the public library, the superintendent of public schools of the city of Boston, the secretary of the State-board of education, and the trustee of the Lowell Institute, were made a body corporate, by the name of the Trustees of the Museum of Fine Arts, for the purpose of erecting a museum for the preservation and exhibition of works of art; of making, maintaining, and exhibiting collections of such works; and of affording instruction in the fine arts. The trustees were authorized to hold real and personal estate for the aforesaid purpose to the value of one million dollars. In a pamphlet containing the act of incorporation, by-laws, &c., published in 1870, "the objects of the Museum of Fine Arts" are stated by the trustees to be—

"1st. To make available to the public and to students such art-collections already existing in this neighborhood as the proprietors of such collections may see fit to deposit in a suitable building to be arranged for the purpose, under such general provision as to the custody and exhibition thereof as shall be agreed upon, with the sole view to their greatest public usefulness.

"2d. To form in this way the nucleus of what may hereafter become, through the liberality of enlightened friends of art, a representative museum of the fine arts in all their branches and in all their technical applications.

"3d. To provide opportunities and means for giving instruction in drawing, painting, modeling, and designing, with their industrial applications, through lectures, practical schools, and a special library.

---

\* "The Cypriote antiquities were discovered by Gen. Louis Palma di Cesnola, an Italian nobleman by birth, a graduate of the Royal Military Academy of Turin, a soldier of the Italian revolution of 1848, of the Crimea, and of our civil war. In 1865 he became an American citizen, and was appointed consul to Cyprus." He became convinced that Cyprus, as a central point of the meeting of the old civilizations, must contain valuable relics; and, proceeding to inform himself as fully as possible in relation to the history of the island and the probable location of its ancient cities, he commenced a series of explorations, which have resulted in the most remarkable "findings" of buried treasures from sites of old cities and from tombs, of which last at Golgas he opened eight thousand. "These treasures consist of coins, glass, statues, inscriptions, bas-reliefs, bronzes, jewelry, terra-cotta vases, and pottery. Here were found the first *known* works of Phenician art and some of the most interesting vases the modern world has yet seen." "This collection is the result of seven years' explorations and researches on the island."

"As it is understood that Harvard University, the Boston Athenæum, and other public bodies represented in this board propose to deposit in this museum the works of art belonging to them, it may be expected that, when first opened to the public, it will contain the following collections :

"1. A collection of mediæval armor, carved furniture, and majolica, made by the late T. Bigelow Lawrence, esq., and bequeathed by him to the Boston Athenæum. (This collection was, unfortunately destroyed in the great fire of November 9, 1872.)

"2. The precious collection of engravings, by the most eminent Italian, Dutch, and German masters, made by the late Francis C. Gray, esq., and devised by him to the University at Cambridge.

"This collection is one which any European city would be proud to possess.

"3. The pictures and casts belonging to the Boston Athenæum.

"4. Such parts of the collection of engravings made by Cardinal Tosti, and given by T. G. Appleton, esq., to the Boston public library, as Mr. Appleton and the trustees of that institution may deem it advisable to deposit in the museum.

"5. Such works of art as individuals may feel disposed to give to the museum or to deposit there for a longer or a shorter period.

"6. A commencement at least of what is intended ultimately to become a comprehensive gallery of reproductions, through plaster-casts, of the many treasures of antique and mediæval art, and of photographs of original drawings by the most renowned artists of all periods now accessible at small cost.

"As all agree that such an art-museum ought to be a popular institution in the widest sense of the term, it should be opened to the public without charge, on as many days in the week as a proper regard for its interests and for the obvious necessity of reserving certain hours for students will allow."

It will be seen that these "objects" are comprehensive and, if successfully carried out, must result in a model institution.

The plan of combining the several collections of the public library, Harvard University, and the Athenæum, together with such collections as the trustees may be able to procure, into a working-museum, accessible to the students whom the trustees propose to instruct, looks directly to building up an American institution of similar purpose to the Kensington Art-Museum and Art-Training School.

In a circular-letter, the trustees further say of the museum :

"It aims at cultivating the public taste for all that is excellent in form and color by a free and permanent exhibition of the best models of design in every department of art, hoping that their influence will eventually bring about a notable improvement in all home-products of art and manufacture.

"It cannot be denied that at the present moment our great American cities offer fewer means for cultivation in art than most of the second-rate towns of England, France, and Germany."

They also refer to the facilities now afforded, through the modern processes of reproduction, for procuring copies, casts, and photographs of many kinds of art-treasures, affording nearly the same facilities to students as the originals, for a moderate expenditure.

This fact makes general art-education possible and will enable small communities to possess such collections for educational purposes, thus affording to their citizens advantages formerly impossible in this country.

In their first annual report, March 20, 1873, the trustees regret the loss of the Lawrence collection of armor by fire, but state that the sum received for insurance is to be expended (with Mrs. Lawrence's approval) for the purchase

of works of art for the museum; and Mrs. Lawrence still purposes to decorate a hall in the new building with the carved wood-work fortunately saved from the fire, which hall will contain the collection of enamels, majolicas, and other objects purchased with the above-mentioned funds.

The loss of this collection was also partly compensated to the museum by the acquisition, through the gift by Mr. C. Granville Way, of the very valuable and complete collection of Egyptian antiquities, well known as the "Hay collection," formed in Egypt between 1828 and 1833 by Mr. Robert Hay, of Linplum, East Lothian, which was purchased by the late Mr. Samuel Way, of Boston, in 1871, and presented to the museum by his son in June, 1872.

The trustees, finding that some time must elapse before they could establish their proposed schools, adopted a resolution warmly indorsing the petition to the legislature for the establishing of the State Normal Art-Training School.

The present collections in charge of the museum, either owned by them or loaned by private owners, are exhibited in two rooms of the Athenæum gallery. They consist—

1st, of the Way Egyptian collection, which numbers about 2,000 objects and occupies an entire room;

2d, antiquities from Cyprus, collections of ancient vases, &c., making about 600 pieces;

3d, a collection of coins, comprising some very rare antiques, 922;

4th, oriental armor, 28 pieces;

5th, Gobelin tapestries, 4;

6th, oriental porcelain, 100 pieces;

7th, Venetian glass, 50 pieces; and

8th, marble group of Hebe and Ganymede, by Crawford, and casts of the Eleusis bas-relief, presented by C. C. Perkins; a few pictures and casts; ten volumes of Roman photographs; and some wood-carvings, and a few miscellaneous articles.

The following additional particulars about the building and its progress are contained in a letter of recent date:

"The building designed by Messrs. Sturges and Brigham is now in process of erection; but it progresses slowly, owing to the limited means at the disposal of the building-committee.

"Some large subscriptions have never been paid, owing to the losses through fire and financial crises, which have happened since they were made.

"The land on which the building stands was given by the city and a sum of nearly \$300,000 was subscribed. The money paid in amounted, however, to about \$260,000, of which \$100,000 was invested by the trustees as a permanent fund, leaving about \$160,000 at the disposal of the building committee, a large portion of which has already been spent in laying foundations, raising a portion of the walls, and in purchasing terra-cotta enrichments from England. The building is to be built of brick and ornamented with terra-cotta made by Messrs. Blashfield, of Stamford, England."

As it is anticipated that the Grey collection of engravings belonging to Harvard University and the Tosti collection of engravings belonging to the public library, as well as the pictures and casts belonging to the Boston Athenæum, will eventually be in charge of the Boston Museum of Fine Arts, a brief enumeration of them will be given.

The Grey collection, which I have previously described, numbers 6,000 engravings.

The Tosti collection, the gift of Mr. Thomas G. Appleton to the library, was made by Cardinal Tosti, and was esteemed the finest in the city of Rome. It is especially rich in examples of Italian engravers; and there are many portraits. Some 600 of the engravings are framed and displayed in the various rooms of the library-building; 5,100 are in bound volumes and several hundreds in portfolios. The library also possesses several portraits, among them two originals of Franklin, by Greuze and by Duplessis, both painted in France; several marble busts; three marble statues; and a large painting by Copley.

The Athenæum, which for fifty years has given annually a public exhibition of works of art, comprising those belonging to it and a loan-collection of the works of modern artists, possesses 122 paintings, among them works by Sully, Stuart, Copley, Allston, and West.

#### CORCORAN ART-GALLERY.

The Corcoran Art-Gallery, at Washington, D. C., is unique in its origin. This, the most richly-endowed art-gallery in the United States, is the gift of one man to the public. The handsome building which contains the rapidly-increasing collections was begun in 1859; but, having been occupied for several years by the Government, it was not till 1869 that it was formally handed over by the donor, W. W. Corcoran, esq., of Washington, a former member of the well-known banking-firm of Corcoran & Riggs, to a board of nine trustees, which was incorporated in 1870.

The building, facing that of the War Department, stands on the northeast corner of Pennsylvania avenue and Seventeenth street, with a frontage of 104 feet on Pennsylvania avenue and 124½ feet on Seventeenth street. It is of brick, with freestone trimmings, in the renaissance-style; and, with its profuse ornamentation and high French roof, suggests one of the new pavilions of the Louvre. The architects were James Renwick, jr., and R. T. Auchmuly, of New York. It is of two stories, the lower devoted to sculpture, the upper to picture-galleries. All the rooms are spacious and well lighted, the picture-galleries with sky-lights. The galleries are connected by lofty arched doors and afford a continuous passage around the floor. The main hall for sculpture is 96½ feet long by 25 wide. The cost of the building was \$600,000. The endowment-fund is estimated at about \$900,000 and the present annual income at about \$55,000.

The nucleus of the collection was the private gallery of Mr. Corcoran, which cost \$100,000. Mr. Corcoran possessed over ten large paintings from the Joseph Bonaparte collection; Huntington's "Mercy's dream;" good specimens of some of the best American artists; and some admirable portraits by Sully, Inman, Peale, and Elliott; the Greek slave, by Powers; and some fine marble busts.

The collections, although opened to the public a year ago, are not yet arranged at all in their proposed order, because the modern paintings and the splendid collection of casts of the finest antique sculptures are constantly

arriving. The plan is eventually to exhibit the casts of the Greek, Roman, and the modern sculptures each grouped by themselves, and to give in the picture-galleries specimens of the best works of all modern schools, replacing poorer pictures by better ones from time to time, and in the other departments to give such specimens of art-work in bronze, porcelain, majolica, &c., as shall give some idea of the world's art-treasures, for the object of this collection is the improvement of taste and to afford to a public hitherto deprived of such advantages opportunity for studying the best works of ancient and modern art. Whatever the plans of the trustees may comprise in the future, there is at present no provision for affording any technical instruction in art, nor any immediate purpose of establishing schools of art or design.

The hall of sculpture now contains some 88 casts made in the Louvre at Paris and in Rome. When it is understood that one of the 88 casts consists of 180 feet of the frieze of the Parthenon, which, placed in the upper part of the wall, surrounds the room on three sides; that another is the cast from the west bronze gate of the Baptistery at Florence by Ghiberti, which occupies one end of the hall, a *fac-simile* of that possessed by the Yale Art-School at New Haven; that a third is the group of the Laocoön, and that the others are casts of the most famous statues, some idea may be realized of the completeness and value of this part of the collection.

The "hall of bronzes, ceramic ware," &c., contains in a glass case "the Hildesheim treasures," electrotpe-reproductions by Christofle & Co., of Paris, of some thirty articles, vases, drinking-cups, saucepans, tripods, salt-cellars, &c., forming a treasure of ancient vessels of gold and silver, discovered near the remains of a Roman camp near Hildesheim, Hanover, in 1868. Some are extremely ancient and several of great beauty. As relics of the table- and kitchen-furniture of the ancients and also as beautiful specimens of the modern art of electrotypy, they are of great interest. Here are eight specimens of faience-ware, after Bernard Palissy; a superb Minton majolica vase, four feet high, called the "Prometheus vase," on which the story of the old myth is graphically delineated in sculpture and haut-relief; four exquisite vases of Sèvres porcelain; and a collection said to be the most complete in the world of the very wonderful bronzes of Barye, Paris. There are seventy pieces, most of them animals in repose or action; though several statuettes and groups indicate his skill as a sculptor outside his specialty. For many years attached to the Jardin des Plantes, his observation of the animals there has given him a marvelous power in delineating their characteristics. These bronzes, each of a few inches in size, force one to realize the power and ferocity of these denizens of the jungle and desert. The tearing, ravenous rage of the famishing beasts is shown in many a forest-episode. Wild beasts, serpents, and birds of prey are seen either in the act of seizing their prey, in contests with each other and with man, or in repose. This collection is in every way remarkable and will repay careful study.

The galleries of pictures contain at present about 110 paintings; some 15 or 20 of these are important specimens of the greatest French artists of the modern school, and were recently selected in Europe by Mr. William T. Walters,

of Baltimore, one of the trustees, whose well-known private collection of modern art furnishes the best guarantee for his selections. These include specimens of Ary Scheffer, Gérôme, Émile Bréton, Japy, A. Vély, Couder, Von Thoren, Portaels, Schreyer, Brion, Leroux, Saint Pierre, Bail, A. Rebouet, Collette, and Henri Martin.

The octagon-room, 25 feet in diameter, contains in the center the beautiful marble statue of the Greek slave, by Hiram Powers, and around the walls marble busts, "Il Penseroso," by Rinehart; "Bacchante," by Galt; "The veiled nun;" the bust of Shakespeare. Two of Powers's imaginative busts in marble, the "Proserpine" and the "Genevra," are in the main hall of sculpture below.

But it is useless to attempt a catalogue of collections which is so constantly receiving such valuable and important additions. With the income at their disposal, the trustees have it in their power to create in time a museum worthy the broadest designs of its founder; whether this noble benefaction shall reach its highest possible use rests wholly with them.

These collections are open to the public daily from 10 a. m. to 4 p. m., from October to April, and from 10 a. m. to 6 p. m., from April to October. Admission Mondays, Wednesdays, and Fridays, 25 cents; Tuesdays, Thursdays, and Saturdays, free. An excellent descriptive catalogue is sold at a moderate price. Large descriptive cards are placed on new works not included in latest edition of the catalogue.

#### SAN FRANCISCO ART-ASSOCIATION.

The San Francisco Art-Association, San Francisco, Cal., a society of artists and amateurs, was organized March, 1871, for the purpose of holding receptions and exhibitions and ultimately of establishing a school of design. Members are chosen by ballot; a president, two vice-presidents, secretary, and a treasurer, with six directors, are to be elected by ballot annually from the board of direction. Every member pays an admission-fee of \$2 and monthly dues of \$1. A subscription of \$100 to the academy-fund constitutes a life-member, free from all further dues.

"All moneys arising from exhibitions, fees of members, donations, unless otherwise directed by donors, and from other sources, over and above the ordinary expenses of the association, shall be devoted to the establishment of an academy or school of design, the formation of a permanent gallery and art-library, the purchasing or leasing of a lot of ground, and the erection of suitable buildings thereon, to be the property of the association.

"Schools for the instruction of students in art shall be established and continued, as the means and apartments of the association permit, under the control and regulation of a standing committee on schools, a majority of whom shall be artists in the practice of their profession, to be appointed by the directors."

Originally founded by about thirty persons, it has now more than seven hundred members and about one hundred life-members.

Its quarterly receptions are attended by about one thousand persons and its semi-annual exhibitions, continuing for two months each, have been well attended. Number of visitors to gallery, 7,145. Income for 1873, \$8,784.45. The society has no debt; has \$5,000 invested in the academy-fund; has a library



worth \$2,500; has fitted up an art-school with all necessary appliances, and will open early in 1874.

Through the influence of the French consul, the French government presented to the association a most valuable collection of casts from the antique marbles in the Louvre, numbering fifty-four pieces of sculpture. The first Napoleon made a similar gift to the Academy of Fine Arts of Philadelphia. The association supplemented this collection by additional casts of material suitable for models in the School of Design, purchased by the Italian sculptor, Mezzara, acting as their agent. The casts imported cost \$2,264.76; the other expenses connected with fitting up the art-school were \$2,209.34.

The collection of casts, numbering 159, was opened to the public at their last exhibition; there was also a loan-collection of 131 paintings. The prospects of the success of the art-school are promising. The history of the enterprise is a most encouraging example for other communities, as showing how much can be accomplished with small means if the will exists.

The Metropolitan Museum of New York, the Brooklyn Art-Association, the Boston Art-Museum, the Corcoran Art-Gallery, and the Art-Association of San Francisco are admirable instances of the methods with which communities and individuals in this country voluntarily provide those institutions for which, in other lands, the government alone is looked to.

#### SUMMARY OF THE PRESENT CONDITION IN THE UNITED STATES OF EDUCATION AS RELATING TO ART.

It is only necessary for the American people to be convinced that a want exists to cause them to supply it. Believing the lack of provision for industrial and general-art-training in our present system of public education to be such a want, I have sought to show—

First, the need of preliminary instruction in drawing, its utility, and the practicability of its introduction into all grades of the public schools;

Secondly, what steps have been taken towards introducing it and how it can best be done;

Thirdly, the present condition of the means for industrial-art-training in technical schools, including the schools of science;

Fourthly, the means possessed by our higher institutions of learning for giving general knowledge of art;

Fifthly, the special schools existing for training professional artists; and,

Sixthly, the steps that have been taken for founding great art-museums in connection with art-training schools.

We find that in one State, Massachusetts, drawing has been by law introduced into all the public schools and a State Normal Art-School established; that, in many cities and towns in other States, drawing has been more or less taught in the public schools; that, in all the "schools of science" where engineering is taught, mechanical drawing is of necessity taught.

#### SCHOOLS OF DESIGN.

In schools for the practical teaching of art as applied to industry and manufactures, the Free Industrial Classes for Adults in Massachusetts, the Lowell Free

School of Industrial Design at the Boston Institute of Technology, the schools of Cooper Union, the Philadelphia School of Design for Women, and the School of Design of the University of Cincinnati complete the short list.

#### SCHOOLS OF ART.

For the special training of artists, we have the schools of the National Academy of Design, New York; the Yale School of Fine Arts, New Haven; and the new College of Fine Arts in the Syracuse University, which comprise all at present existing. The San Francisco school is soon to open. The school of the Pennsylvania Academy of Fine Arts will resume active operations on the completion of the new building.

#### ART-DEPARTMENTS IN COLLEGES AND UNIVERSITIES.

Of the colleges possessing any special collections or facilities for giving any instruction in art, even the most general, we find, excepting Yale and Syracuse, with their special art-departments, only Harvard, University of Michigan, Cornell, Rochester University, the College of Notre Dame, and Vassar College, out of the hundreds of colleges of the country, that either give any art-training or possess any art-collections, however small or incomplete.

#### PUBLIC ART-MUSEUMS AND GALLERIES.

There remain, then, but the public art-institutions which we have already described; there are four of these in the whole land: at Boston, New York, Washington, and San Francisco. An important means of art-culture, and the only one which has appealed to the general public, is found in the public art-exhibitions. To those of the Metropolitan Museum, National Academy, the Boston Athenæum, the Yale Art-School, the San Francisco Art-Association, and the permanent exhibitions of the Corcoran Art-Gallery, I have already referred.

#### THE BROOKLYN ART-ASSOCIATION.

The Brooklyn Art-Association, succeeding the old Brooklyn Academy of Design, instituted January 5, 1861, and incorporated 1864, possesses a fine building, which adjoins the Brooklyn Academy of Music, with which it connects, affording special facilities for the grand opening receptions of its annual exhibitions. These receptions are thronged and the exhibitions of fresh modern pictures are largely attended during their continuance. In the spring of 1872, a notable chronological exhibition of American art was held, in which Allston, Cole, Copley, Leslie, Morse, Peale, Stuart, Sully, Trumbull, and West were each represented by several paintings; while, in the collection of 117 pictures, their successors and the leading artists of the present day were also well represented.

“The object of the Brooklyn Art-Association shall be the encouragement and promotion of art by the reunion of the members; by providing for the exhibition of paintings, statuary, and other works of art; by an inauguration of one or more annual exhibitions; by the establishment of a permanent gallery; and by such other means as the trustees may adopt.” (Extract from the by-laws, article 1, section 1.)

There are probably similar associations for the holding of annual art-exhibitions in other cities of which authentic data are not possessed by this Bureau.

#### LOAN-EXHIBITIONS.

It would not be difficult to obtain collections of fresh works of the artists for exhibition and sale in connection with the loan-exhibitions of works of art belonging to citizens that have been already suggested.

The popularity of exhibitions of good pictures, as attested by the throngs of visitors that attend them and the crowds that visit the saloons of the leading picture-dealers in the large cities, who hold perpetual exhibitions in a small way, sufficiently shows the public interest in art. Indeed, with the multiplicity of American tourists in Europe in these days, it would be strange if the love was not awakened. There are quite a number of well-known private art-collections in the leading cities, which, separately, would make a desirable public gallery, and from which, as the Metropolitan Museum has shown, a loan-collection of rare works can be made for public exhibition.

While I have recorded the paucity of institutions capable of giving a thorough art-training and the few public art-collections now in this country, it is, nevertheless, apparent that there already exists, in all the leading cities, the material, which needs only to be made available, to afford all necessary facilities for general and technical-art-training; and, if it shall be undertaken *in earnest*, there is possible in this country a development, both in industrial art and in what are called the higher branches of art, which, at the end of twenty-five years, will render obsolete the verdict passed upon us at the World's Fair in 1851, and never yet reversed. Here there is opened a field of honorable rivalry between the several States, cities, and towns of the Union. What England has done in this direction we can do; and the more readily, that we have the advantage of her experience. No time or force need be wasted. We have but to adopt and modify the methods so thoroughly tested there to the different conditions that may exist in our several communities.

I commend this subject of the relation of art to education to the consideration not only of all educators but to all who are interested in the varied manufacturing-industries of our many States. Skill is the modern secret of success. Science becomes ever more certainly the measure of prosperity. Science underlies and must precede art; it is the strong substructure upon whose fixed foundations she builds her palace-walls. In the common schools, the children of America must be trained to draw if her artisans are to hold their own in the world's contest and if her artists are to enshrine her history.

If they but will it, the "republic of the people" shall become the home of an art as noble and as enduring as that which glorified the "republic of princes," whose palaces for so many centuries have lifted their stately walls above the waves, guarding for mankind, not the trophies of her warriors nor the wealth of her merchants, but the priceless work of her humbler artists.

Tintoretto, Titian, and Veronese are still fresh in men's memories, though the names of doge and patrician have faded from recollection.

[The following are the statistics to which reference is made on page 24.]

*Statistics of museums of art and archeology for 1873; from replies to inquiries by the United States Bureau of Education.*

Number.	Name of museum.	Location.	By whom owned.	When founded.	By whom founded.	Amount of endowment.	Income for past year.		Expenditures for past year.	
							Amount.	Source.	Amount.	Object.
1	{ The Yale School of the Fine Arts.	New Haven, Conn.	{ Corporation of Yale College.	1884	Augustus Russell Street.	\$38,000 {	\$5,930	Endowments {	\$5,870	Salaries and wages.
2	Notre Dame Museum.	Near South Bend, Ind.	Congregation (or order) of the Holy Cross.	1848	A board of trustees.	0	1,300	All other {	700	Rent, repairs, &c.
3	Fine-arts-department of the Public Library.	Boston, Mass.	City of Boston.	1852	City of Boston.		0		100	Collections.
4	Gray Collection of Engravings.	Cambridge, Mass.	Harvard University.	1856	Frances Calley Gray	19,155 {	1,355	Endowments {	500	Salaries and wages.
5	Peabody Museum of American Archeology and Ethnology.	do	do		George Peabody.	150,000	95	All other {	17	Rent, repairs, &c.
6	{ New Hampshire Philomathic and Antiquarian Society's Museum.	Contocook, N. H.	{ New Hampshire Philomathic and Antiquarian Society.	1859	The Philomathic Club.	0 {	426	Donations {	405	Rent, repairs, &c.
7	Metropolitan Museum of Art.	New York, N. Y.	Corporation of Museum.	1870	Citizens of New York.	200,000	34	All other {	5,500	Salaries and wages.
8	National Academy of Design.	do	{ Corporation of Academi- cians.	1826	Artists of New York.	50,000 {	15,000	Municipal grant {	1,300	Rent.
9	Art Museum of Rochester.	Rochester, N. Y.	Rochester University.				3,000	Endowment {	22,000	All purposes.
10	{ Western Reserve & North- ern Ohio Historical So- ciety and Museum.	Cleveland, Ohio	{ Department of Cleve- land Library Asso- ciation.	1867	{ Cleveland Library Asso- ciation.	10,000 {	16,300	Donations {	150	Collections.
11	The Historical Society of Pennsylvania.	Philadelphia, Pa.	Historical Society of Pennsylvania.	1824			300	Subscription {	150	Salaries and wages.
12	Park Gallery of Art.	Burlington, Vt.	University of Vermont and State Agricul- tural College.	1873	Trustees of University.			All sources {	150	Rent, repairs, &c.
13	Corcoran Art-Gallery.	Washington, D.C.	Board of nine trustees.	1869	W. W. Corcoran.	1,000,000	50,000	Endowment {	50,000	Collections.

*Statistics of museums of art and archaeology for 1873—Continued.*

Number.	Name of museum.	Location.	Admission.	Number of visitors last year.	Number of special rooms for study.	Course of study in connection with the museum.	No. of professors and instructors.	Lectures delivered.	
								Number.	Subject.
1	{ The Yale School of the Fine Arts. }	New Haven, Conn. { }	Free to all students; the public pay a fee of 25 cents.	{ 8,000 }	{ 5 for drawing-schools 4 painting-rooms 3 exhibition-rooms 2 library-rooms 1 }	{ Schools of drawing, painting, sculpture, and architecture. }	4	24	{ The principles and means of art; the history of art. \$2 per course, }
2	Notre Dame Museum.....	Near South Bend, Ind.	Unrestricted.....	1,200	0	0	0	0	
3	Fine-arts-department of the Public Library.	Boston, Mass.	Appointments to visit the collection are made by note to the curator.	a	0	0	0	0	
4	Gray Collection of Engravings.	Cambridge, Mass.	At present restricted; to be soon open to the public.	100	0	0	0	0	
5	Peabody Museum of American Archaeology and Ethnology.	.....do.....	Unrestricted.....	b	0	0	0	0	
6	New Hampshire Philomathic and Antiquarian Society's Museum.	Contocook, N. H.	Unrestricted.....		0	0	0	0	
7	Metropolitan Museum of Art	New York, N. Y.	Free one day each week; other days 25 cents charged.	65,000	0	0	0	0	
8	National Academy of Design.	.....do.....	The public pay an entrance-fee of 25 cents.	35,000	6 rooms and alcoves..	Antique school, life-school, and painting-school.	3	0	Annual courses on art subjects. Free.
9	Art-Museum of Rochester.....	Rochester, N. Y.	.....do.....		0	0	1	25	Art
10	Western Reserve and Northern Ohio Historical Society and Museum.	Cleveland, Ohio.	.....do.....	2,000	0	0	0	0	
11	The Historical Society of Pennsylvania.	Philadelphia, Pa.	Free to all applicants.	4,500	0	0	0	0	
12	Park Gallery of Art.....	Burlington, Vt.	Open every day; free two days.	c	0	0	1	0	Art.
13	Corcoran Art-Gallery.....	Washington, D. C.	.....do.....		None at present.....	No collections as yet. None at present.....	1	0	

a Not given.

b Unknown.

c Just opened.

*Statistics of museums of art and archeology—Continued.*

Name of museum and location.	Sculpture and carving.				Ceramics, &c.	Paintings, engravings, &c.		Coins, gems, jewelry, &c.		
	Statuary and busts.	Relievs, ancient and modern.	Carvings in iron and wood.	Ancient inscriptions in stone and metal.		Paintings in oil and water.	Engravings and etchings.		Photographs, lithographs, drawings, &c.	
Yale School of Fine Arts, New Haven, Conn.	43	91	1	1		225	18	360		
Notre Dame Museum, South Bend, Ind.	55	11	7	5	29	18	1,671	1,876	390	18
Athenaeum Gallery, Boston, Mass.						212	A number	A number	Few medals	0
Fine-arts-department, Public Library, Boston, Mass.	13	0	0	0	0	9	as, 000	A few		
Museum of Fine Arts, Boston, Mass.	14		1		100	6	6,000	10 vols.	132	
Gray Collection of Engravings, Cambridge, Mass.										
Peabody Museum of Archaeology and Ethnology, Cambridge, Mass.	A number		A number	A number	A number					
Art-Gallery Univ. of Michigan, Ann Arbor, Mich.	A number									
New Hampshire Philomatheic and Antiquarian Society, Concord, N. H.	4	4	6	0	33	5	A number	A number	1,350	91
Museum of Fine Arts, Cornell Univ., Ithaca, N. Y.	A number						A number	Many	2,000	
Metropolitan Museum of Art, New York, N. Y.	61,000		0		212,000	178	0	6	6200	
National Academy of Design, New York, N. Y.	170					400	500	c		
Woman's Art School, Cooper Union, New York, N. Y.										
Art-Gallery, Vassar College, Poughkeepsie, N. Y.	A number					500		A number		
Art-Museum, Rochester Univ., Rochester, N. Y.	A few					10	Say 300	A number		
Art-Museum, Syracuse University, Syracuse, N. Y.	1	A number	12	6	4	4	Over 1,000	c		2
West, Reserve and N. Ohio Hist. Soc., Cleveland, O.		9					121	57	318	
Academy of Fine Arts, Philadelphia, Pa.							Hundreds	Many	Several 100	
Historical Society of Pennsylvania, Philadelphia, Pa.	8			d		85	Many	Many		
School of Design for Women, Philadelphia, Pa.	71	30	d			100				
Art-Gallery of Art, Burlington, Vt.	d	d	d	d						
Corcoran Art-Gallery, Washington, D. C.	180				18				30	

<sup>a</sup> Including Tosti collection.

<sup>b</sup> Di Cesnola.

<sup>c</sup> See engravings.

<sup>d</sup> Lately founded; has no collection yet.

*Statistics of museums of art and archaeology for 1873—Continued.*

Number.	Name of museum.	Location.	Admission.	Number of visitors last year.	Number of special rooms for study.	Course of study in connection with the museum.	No. of professors and instructors.	Lectures delivered.	
								Number.	Subject.
1	{ The Yale School of the Fine Arts }	New Haven, Conn.	Free to all students; the public pay a fee of 25 cents.	{ 8,000 }	{ 5 for drawing-schools 4 painting-rooms 3 exhibition-rooms 2 library-rooms 1 }	{ Schools of drawing, painting, sculpture, and architecture. }	4	24	{ The principles and means of art; the history of art. \$2 per course, }
2	Notre Dame Museum	Near South Bend, Ind.	Unrestricted	1,200	0	0	0	0	
3	Fine-arts-department of the Public Library,	Boston, Mass.		a	0	0	0	0	
4	Gray Collection of Engravings.	Cambridge, Mass.	Appointments to visit the collection are made by note to the curator.	100	0	0	0	0	
5	Peabody Museum of American Archaeology and Ethnology.	do	At present restricted; to be soon open to the public.		0	None at present.	0		
6	New Hampshire Philomathic and Antiquarian Society's Museum.	Contocook, N. H.	Unrestricted	b	0	0	0		
7	Metropolitan Museum of Art	New York, N. Y.	Free one day each week; other days 25 cents charged.	65,000	0	0	0	0	
8	National Academy of Design.	do	The public pay an entrance-fee of 35 cents.	35,000	6 rooms and alcoves.	Antique school, life-school, and painting-school.	3		Annual course on art subjects. Free.
9	Art-Museum of Rochester.	Rochester, N. Y.			0	0	1	25	Art.
10	Western Reserve and Northern Ohio Historical Society and Museum.	Cleveland, Ohio.		2,000	0	0	0	0	
11	The Historical Society of Pennsylvania.	Philadelphia, Pa.	Free to all applicants.	4,500		0	0	0	
12	Park Gallery of Art.	Burlington, Vt.				No collections as yet.	1		Art.
13	Corcoran Art-Gallery	Washington, D. C.	Open every day; free two days.	c	None at present.	None at present.	0	0	

<sup>a</sup> Not given.

<sup>b</sup> Unknown.

<sup>c</sup> Just opened.

*Statistics of museums of art and archeology—Continued.*

Name of museum and location.	Sculpture and carving.				Ceramics, glass, and &c.	Paintings, engravings, &c.		Coins, gems, jewelry, &c.	Gems, cameos, and en-
	Statuary and busts.	Reliefes, ancient and modern.	Carvings in iron and wood.	Ancient inscriptions in stone and metal.		Paintings in oil and water.	Engravings and etch-ings.		
Yale School of Fine Arts, New Haven, Conn.	42	91	1	1		225	18		
Notre Dame Museum, South Bend, Ind.	55	11	7	5	29	18	1,671	360	18
Athenaeum Gallery, Boston, Mass.						212	A number	1,876	330
Fine-arts-department, Public Library, Boston, Mass.	13	0	0	0	0	9	as 000	A few	Few medals
Museum of Fine Arts, Boston, Mass.	14		1		160	6	6,000	10 vols.	932
Gray Collection of Engravings, Cambridge, Mass.									
Peabody Museum of Archeology and Ethnology, Cambridge, Mass.	A number		A number	A number	A number				
Art-Gallery, Univ. of Michigan, Ann Arbor, Mich.	A number								
New Hampshire Philomathic and Antiquarian Society, Concord, N. H.	4	4	6	0	93	5	A number	A number	1,350
Museum of Fine Arts, Cornell Univ., Ithaca, N. Y.							432	97	442
Metropolitan Museum of Art, New York, N. Y.	21,000		0		612,000		Many	Many	2,900
National Academy of Design, New York, N. Y.	170					178	0	6	6200
Woman's Art-School, Cooper Union, New York, N. Y.						400	500	c	
Art-Gallery, Vassar College, Poughkeepsie, N. Y.	A number					500		A number	
Art-Museum, Rochester Univ., Rochester, N. Y.	A few					10	Say 300	A number	
Art-Museum, Syracuse University, Syracuse, N. Y.	1	A number	12	6	4	Over 1,000	Over 1,000	e	
West Reserve and N. Ohio Hist. Soc., Cleveland, O.		9				4	121	57	318
Academy of Fine Arts, Philadelphia, Pa.							Hundreds	Many	Several 100
Historical Society of Pennsylvania, Philadelphia, Pa.	8					85	Many	Many	Many
School of Design for Women, Philadelphia, Pa.	71	d	d	d		Many			
York Gallery of Art, Burlington, Vt.		30				100			
Corcoran Art-Gallery, Washington, D. C.	180				18				30

<sup>a</sup> Including Tosti collection.

<sup>b</sup> Di Cesnola.

<sup>c</sup> See engravings.

<sup>d</sup> Lately founded; has no collection yet.



Statistics of museums of art and archaeology—Continued.

Name of museum and location.	Miscellaneous.									
	Illuminated manuscripts.	Rare specimens of binding and printing.	Specimens of armor and weapons.	Costumes.	Laces.	Tapestries.	Chinese and Japanese curiosities.	North American Indian relics.	Other Indian relics.	Egyptian antiquities, &c.
Yale School of Fine Arts, New Haven, Conn.		10	20			9	21	36		
Notre Dame Museum, South Bend, Ind.										
Athenæum Gallery, Boston, Mass.										
Fine-arts-department, Public Library, Boston, Mass.	0	About 100	0	0	0	0	A few	0		
Museum of Fine Arts, Boston, Mass.			28			Gobelin, 4				
Gray Collection of Engravings, Cambridge, Mass.										2,000
Peabody Museum of Archaeology and Ethnology, Cambridge, Mass.			A number	A number				Many	Many	
Art-Gallery Univ. of Michigan, Ann Arbor, Mich.	2									
New Hampshire Philomathic and Antiquarian Society, Contecook, N. H.		228	42	20	0	1	39	58		
Museum of Fine Arts, Cornell Univ., Ithaca, N. Y.										
Metropolitan Museum of Art, New York, N. Y.										
National Academy of Design, New York, N. Y.										
Woman's Art School, Cooper Union, New York, N. Y.										
Art-Gallery, Vassar College, Poughkeepsie, N. Y.										
Art-Museum, Rochester Univ., Rochester, N. Y.										
Art-Museum, Syracuse University, Syracuse, N. Y.										
West. Reserve and N. Ohio Hist. Soc., Cleveland, O.		6	41	3			36	800		
Academy of Fine Arts, Philadelphia, Pa.										
Historical Society of Pennsylvania, Philadelphia, Pa.										
School of Design for Women, Philadelphia, Pa.		Several	4					Many		
Park Gallery of Art, Burlington, Vt.										
Corcoran Art-Gallery, Washington, D. C.										

CIRCULARS OF INFORMATION

OF THE

BUREAU OF EDUCATION.

---

No. 3.—1874.

---

HISTORY OF SECONDARY INSTRUCTION IN GERMANY.

---

WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1874.

135-138



# CONTENTS.

---

	Page.
Letter of the Commissioner of Education to the Secretary of the Interior.....	5
INTRODUCTION.....	7
SUBDIVISION OF GERMAN SECONDARY SCHOOLS.....	7
HISTORY OF GERMAN SECONDARY SCHOOLS:	
The earliest times.....	7
Convent-, chapter-, and cathedral-schools.....	8
Latin or city-schools.....	10
General character of the period.....	11
The revival of classical studies.....	12
The forerunners of the reformation in the Netherlands.....	13
The period of the reformation.....	14
Personal influence of famous educators of this period.....	16
The schools of the Jesuits.....	20
The school-regulations of the principal German states.....	22
The realistic and methodic movement.....	24
The period of the thirty-years' war.....	25
The period following the peace of Westphalia.....	26
The influence of Locke's system.....	29
The Halle pietism and the real-school.....	30
The philanthropists.....	32
The modern humanists.....	33
The increase of knowledge and the division of labor.....	37
The revival of national life in Germany.....	39
Important data of modern development.....	40
THE PRESENT STATUS OF SECONDARY SCHOOLS IN GERMANY:	
Introduction.....	41
The different kinds of secondary schools.....	41
Administration.....	41
Extent of the different schools.....	42
Conditions of admission.....	42
Scholastic year and length of course.....	42
Course of instruction in a gymnasium.....	22
Religion.....	43
German.....	45
Latin.....	46
Greek.....	47
Hebrew.....	48
French.....	48
Geography and history.....	49
Arithmetic and mathematics.....	50
Natural sciences.....	51
Course of instruction in a real-school.....	51
Religion.....	52
German.....	52
Latin.....	52
French.....	53

<b>THE PRESENT STATUS OF SECONDARY SCHOOLS IN GERMANY—Continued.</b>	<b>Page.</b>
English .....	54
Geography and history .....	54
Natural sciences .....	55
Arithmetic and mathematics .....	55
Other courses of instruction .....	56
Combined institutions .....	57
Examinations .....	58
Boarding .....	59
Religious exercises .....	59
Discipline .....	59
Punishments .....	59
Vacations .....	60
Expenses .....	60
School-programmes .....	60
Teachers, their qualifications, duties, salaries, and pensions .....	61
<b>APPENDIX I.—SECONDARY SCHOOLS FOR FEMALES.....</b>	<b>62</b>
<b>APPENDIX II.—CONFERENCE OF EDUCATORS TO DISCUSS THE QUESTION OF SECONDARY INSTRUCTION—PROTOCOL OF THE DISCUSSION.....</b>	<b>63</b>
<b>STATISTICS OF GERMAN SECONDARY SCHOOLS.....</b>	<b>69</b>
Alsace-Lorraine .....	69
Anhalt .....	69
Baden.....	70
Bavaria.....	70
Bremen .....	71
Brunswick.....	71
Hamburg.....	72
Hesse.....	72
Lippe-Detmold.....	73
Lübeck .....	73
Mecklenburg-Schwerin .....	73
Mecklenburg-Strelitz .....	74
Oldenburg.....	74
Prussia.....	75
Reuss-Greiz .....	75
Reuss-Schleiz.....	76
Saxe-Altenburg .....	76
Saxe-Coburg-Gotha.....	77
Saxe-Meiningen .....	77
Saxe-Weimar .....	77
Saxony.....	78
Schaumburg-Lippe.....	78
Schwarzburg-Rudolstadt .....	79
Schwarzburg-Sondershausen .....	79
Waldeck .....	79
Württemberg.....	80
Total of the German empire.....	80
General statistics of German secondary schools.....	81
<b>PROF. ALLEN ON GERMAN SCHOOLS.....</b>	<b>82</b>

## LETTER.

---

DEPARTMENT OF THE INTERIOR, BUREAU OF EDUCATION,

*Washington, D. C., October 20, 1874.*

SIR: The subject of secondary education is attracting increased attention from American educators, leading to quite a general demand upon this Bureau for information in regard to the history and present condition of secondary education in Germany, where it has received special attention, and in which different German states have greatly excelled.

In endeavoring to supply this demand, I have had the following papers prepared:

1st. The History of German Secondary Schools, by Dr. Lübker, which is contained in Schmid's Educational Encyclopedia, and is generally accepted as an authority.

2d. Extracts from the "Rules and Regulations for the Higher Schools in Prussia," by Dr. Wiese, privy counselor in the royal ministry of public instruction at Berlin, as showing the present condition of these schools.

3d. The protocol (minutes) of the debates of the conference of educators, held in Berlin, in October, 1873, which was presided over by Dr. Falk, the Prussian minister of public instruction.

4th. Statistics of German secondary schools from Dr. E. Mushacke's German University and School Almanac for 1872, prepared from official sources.

5th. Observations made by Prof. N. T. Allen, A. M., of West Newton, Mass., during a residence in Germany, upon the school-system; of great interest as the views of a competent observer and well-known practical American educator.

The translations from the German have been made by Mr. Herman Jacobson, the official translator attached to this Bureau. The statistics, which in the originals are scattered, have been collected, arranged, and tabulated with great care by him especially for this circular.

I respectfully recommend the publication of these papers.

Very respectfully, your obedient servant,

JOHN EATON, *Commissioner.*

Hon. C. DELANO,

*Secretary of the Interior.*

Approved and publication ordered.

C. DELANO, *Secretary.*



## SECONDARY EDUCATION IN GERMANY.

---

### INTRODUCTION.

Secondary education, or, as it is usually termed in Germany, "higher education," (*das höhere Schulwesen*), is undoubtedly the glory of the German educational system, being of older date and more harmoniously developed in all its different branches than any other part of the system. Its general aim is to give to young men a thorough classical or realistic education, and to form the connecting link between the primary school and the university; as well as, more recently, the higher technical institutions.

### SUBDIVISION OF GERMAN SECONDARY SCHOOLS.

All the German secondary schools, differing in name in the different German states, may be grouped under two heads, viz: (1) those in which special attention is given to the ancient classics; and (2) those in which natural sciences and modern languages are taught. The former, which embrace gymnasia, progymnasia, lyceums, (Württemberg, Baden,) Latin schools, (Bavaria, Württemberg,) pædagogia, seminaries, (Baden,) may well be called "classical colleges;" and the latter, embracing real-schools and higher burgher-schools, (*höhere Bürger-schulen*), "non-classical colleges." In some cases, the two are combined, having the two or three lower classes in common, and then branching off into two distinct courses, a gymnasium course and a real-school-course. Institutions which are arranged on this so-called system of bifurcation are called Real gymnasia.

### HISTORY OF GERMAN SECONDARY SCHOOLS.\*

#### THE EARLIEST TIMES.

As the gymnasium up to the present day has unswervingly followed its beautiful object of uniting and harmonizing human truth with Christian depth, it is not astonishing that it has first been established and has principally been developed among the nations of the Germanic race, among whom the purely human development has been of the most healthful character, and where there has been the greatest congeniality with evangelical truth. The different nations of the Germanic race have each developed the institutions for higher instruction in accordance with their national peculiarities; but the most characteristic type of such institutions is undoubtedly found in Germany.

---

\*In this History of German Secondary Schools the excellent article on the subject in Schmid's Educational Encyclopedia, by Dr. Lübker, late rector of the Gymnasium at Flensburg, has chiefly been followed.



The first man who gave definite shape to German superior education was Charlemagne, whose clear and comprehensive mind saw and understood the wants of the growing generation. His two leading thoughts were to extend higher education beyond the clergy, and to educate suitable teachers. His influence in this direction was felt far beyond the confines of his empire; and his work has been the firm basis on which the educational edifice of a thousand years has been built. The center of his activity was the oldest school in his empire, the Court-School or Schola Palatina. The flourishing condition of this school is owing chiefly to the untiring exertions of the Anglo-Saxon Alcuin, who, in the year 793, was called over from England. He gradually succeeded in educating talented men as principals of similar schools, thus enabling Charlemagne to carry out his favorite idea of establishing schools throughout the whole of his vast empire. With regard to the method of instruction, the dialogue-form gradually gained ground; and as regards the matter taught, it was no longer confined to theological subjects, but extended to all branches of science. The existing mass of knowledge had been sifted and arranged suitably for instruction in the important writings of Boëthius (455-524) and Cassiodorus, (480-570;) in the *Satiricon*, (especially the first two books, *De Nuptiis Philologiæ et Mercurii*;) of Marcius Capella, (470;) and the *Origines* of Bishop Isidore, of Seville, (died 636.) All through the middle ages, the *artes liberales* were divided into the *trivium* and *quadrivium*; the former comprising grammar, rhetoric, and dialectics; the latter, the four mathematical sciences, arithmetic, geometry, music, and astronomy. Alcuin did not add anything to these, but only gave them new names, calling the *trivium* ethics, and the *quadrivium* physics.

#### CONVENT, CHAPTER, AND CATHEDRAL-SCHOOLS.

All the schools did not rise to the dignity of these *artes liberales*; many merely teaching reading, writing, arithmetic, singing, and grammar. These were merely parochial schools, corresponding to the modern elementary schools. Wherever it could be done, the study of the Scriptures was added; sometimes, also, the ancient classics; of the Greeks, only Homer, but of the Romans, Horace, Virgil, Statius, Sallust, Terence, Cicero, and Seneca. Greek, though not pursued extensively, nevertheless formed a favorite study. Thus we know that Charlemagne appointed teachers of Greek in Salzburg and Ratisbon, as also in several other cities. The difference of rank and occupation in life as marked by a different degree of education, peculiar to the German nation, soon made itself felt. Charlemagne, like Alfred the Great, endeavored to obliterate differences of rank in educational matters, but was not as successful in this as the English king. There was from the beginning an unavoidable difference between ecclesiastical and secular schools. Candidates for the priesthood were instructed in the *trivium* and *quadrivium* in *scholis intrariis seu claustris*, (convent-schools;) while laymen acquired the same knowledge in *scholis exterioribus seu canonicis*. In many of the convents, however, no instruction worth the name was given, but all that was aimed at was to prepare young men to assist in the rites of divine service.

The two great factors in the formation of the German school during the Middle Ages were, therefore, *the foundation of convents* and *the foundation of cities*. Out of the former grew the convent, chapter, and cathedral-schools, and out of the latter the Latin or city-schools. In the beginning, the convent schools ranked highest; Bede, Alcuin, and, later, Boniface, being pupils of such schools, while the chapter and cathedral-schools ranked second. Later, this was reversed; for when Chrodegang, bishop of Metz, drew up those rules and regulations which soon became the guiding-law for the life of ecclesiastics, new schools sprang up almost imperceptibly, especially in the episcopal residences, and the chapter and cathedral-schools—prominent among which were Magdeburg, Hildesheim, Paderborn, and Utrecht—emulated and frequently excelled the convent-schools. This lasted, however, only as long as the bishops themselves were sincere friends of education, and did not prefer a life of luxury outside of their bishoprics.

It must be considered as an inestimable blessing that education could be pursued undisturbedly in the convents; for the princes who were to further and protect it did not, in many cases, possess the energy and zeal of Charlemagne, and many of the schools founded by him were closed during the reign of his immediate successor. But the seed sown by him and by Boniface (680–755) could not be suppressd, and new schools began to arise in the place of those which had become defunct. Schools were established by ecclesiastics in Hesse, viz: the school at Fritzlar, by Wigbert, in 740; at Hersfeld, by Lullus, in 770; and, most famous of all, the convent-school at Fulda, established in 813, the first convent-school in Germany, which was open to all classes of society, and which possessed a rich library. The founder of this school was the well-known abbot Rabanus Maurus, (775–856,) a man of great learning and at the same time thoroughly practical, who is justly considered the originator of the system of German secondary education, *primus præceptor Germaniæ*, as he is called by his contemporaries. This convent-school at Fulda is still in existence as a gymnasium, and is thus the oldest German secondary school. The successor of Rabanus Maurus, Walafrid Strabus, (822,) was untiring in his efforts to increase not only the study of the ancient classics, but also that of the German language. The archbishops of Mayence, to whose diocese the Hessian convents belonged, were great patrons of education. It was, however, no easy matter for the convents to keep up that original vigor and healthfulness which had been breathed into the whole system of education by Charlemagne, and it soon began to decline. The times advanced rapidly through powerful revolutions, which the schools were not able to comprehend or follow. In many cases, the welfare of a school was so bound up with the person of the founder that from the moment of his death it declined. It must also be borne in mind that the aim of superior education in the Middle Ages was confined to the dry, abstract results of science, and did not embrace science itself in all its freshness and beauty. The moral decline of monasticism also exercised a baneful influence on education. During the first period of the convent-schools, a healthful emulation prevailed between the Dominicans and Franciscans on the one side, and the Benedictines on the other. But when the convents grad-

ually withdrew from the supervision of the bishops, the learning of the monks and the excellence of the schools declined simultaneously; and when in 977 the canons at Treves, with the consent of the archbishop, dissolved the canonical society, the canons everywhere left their chapter-houses and lived on their benefices, wherever they pleased. They considered themselves to have fulfilled their duty, when, instead of a "scholasticus" they had appointed a rector, and instead of a chanter (*cantor*) a subchanter, (*succentor*), and often places were sold for money. The Benedictine friars thus sank into the greatest ignorance, and only the establishment of the orders of the mendicant friars, the Dominicans, and Franciscans, awakened them to new life. These two last-mentioned orders rapidly spread their influence throughout the whole of Germany, establishing schools wherever they went, *scholæ claustræ*, (convent-schools,) for novices about to enter their order; and *scholæ canonice*, (chapter-schools,) for the mass of the people. Their chief merit consists in preparing and introducing better text-books, especially a new Latin grammar, the *Doctrinale*, of the Franciscan, Alexander de Villa Dei, from Dole in Brittany, in 1230. Being more eager to increase the number of their schools than to improve the course of instruction, the results were less brilliant and lasting than those of the original convent-schools.

#### LATIN OR CITY-SCHOOLS.

These schools, established by the magistrates of cities, are of later date, and had to encounter considerable difficulties in the beginning. The clergy were well aware of the damaging influence which such entirely secular schools would have on their own schools. The bishops maintained that they only had the right to establish schools, and were very loath to grant permission to establish schools in which more than reading and writing was taught. The magistrates of several cities, nevertheless, succeeded in founding superior secular schools independent of the clergy, among the oldest of which are the two Latin schools—now gymnasia—at Breslau, Silesia, founded in 1267 and 1293. The greatest difficulty was how to procure suitable teachers, as most of them had to be taken from the ranks of the clergy. The convent-schools, therefore, were the models for most of these schools, and only in the external arrangement there was some difference. When the magistrate of a city had determined on the establishment of a school, the first step was to build a school-house; next, a sum for the salary of the teacher (*scholasticus* or *ludi magister*) was appropriated, and the amount of school-fees fixed. Then a teacher was elected by the magistrate from among the monks and priests in the city, who was appointed for one year. At the end of the year, his appointment had to be renewed by the magistrate. His assistants he selected himself. They were called his journeymen, sometimes also *baccalauræi*. The teacher, before entering on the duties of his office, had to promise solemnly, with the help of his assistants, "to instruct his scholars carefully in the Latin language and in good and decent manners, and himself to lead a decent and moral life." The life which all these *scholastici* led was often very peculiar and irregular. They frequently changed their places and wandered about the country under the name

of *scholares vagantes* and *histriones*, pursuing frequently wild and dissipated ways, which were but too closely imitated by the scholars.

The course of instruction in these schools chiefly consisted of grammar, for which extracts from Donatus, Priscian, and Diomedes were used, as also the Glossæ of Remigius and Marinianus, and at a later period the Doctrinale of Alexander. Music was taught chiefly for church-purposes. Papers and books being very expensive, most of the text-books had to be committed to memory. The studies included the *Apostolic Symbolum*, the *Sententiæ Cætonis*, the *Eclogæ Theoduli*, *Regule Pueriles*, and the *Cisio-Janus*, an almanac in twenty-four stanzas; *Boëthius De Consolatione*, *Mancini Poemata*, and the works of Stephanus Fiscus de Sontino, Laurentius Corvinus, Hugo Cardinalis, &c. Rhetoric, dialectics, and scholastic philosophy were studied but little.

#### GENERAL CHARACTER OF THE PERIOD.

Men like Rabanus Maurus had, it is true, introduced and recommended the ancient classics; and even the study of Greek authors, although fanatically opposed by many of the clergy, was carried on extensively. Still, as long as education was exclusively in the hands of the clergy, these studies were merely considered as means to reach a certain end. The Latin language especially was nothing else but the handmaid of the church, and the glorious literature of antiquity was only used to fill gaps in philosophical or theological systems, just as the marble pillars of ancient temples and palaces were put to the most common uses.

Scholasticism, one of the two great factors in the literary life of the Middle Ages, could not supply the pressing wants of the schools. It was characterized as well by clearness as by depth of thought; but historical and traditional knowledge, the knowledge of the whole rich life of antiquity, was almost entirely lost. By its very method, it exercised a baneful influence, decreasing the love of truth by its excess of speculative zeal and by the subtleties of dialectic art. The rigid and one-sided obedience which its doctrines exacted produced that blind belief in authorities which was based on the most famous works of scholasticism, viz, the *Sententiæ* of Peter Lombard and the *Summa* of Thomas Aquinas. Practical philosophy and, above all, pedagogics found no place in this system.

Just as little benefit did the schools derive from mysticism. Its chief characteristic, dreamy contemplativeness, which purposely neglected a clear and distinct development of ideas, could not satisfy young men, who, from the incomparable models of antiquity, were to learn the "*sapere ac fieri*" in all its classic sharpness and precision. Only that school could exercise a beneficial influence which combined the best elements of both scholasticism and mysticism. Such was the school which William of Champeaux, in 1109, established in connection with the convent of St. Victor in one of the suburbs of Paris, and whose influence made itself widely felt. The spirit which animated this school finds its representative type in Vincent de Beauvais, (died in 1264,) perhaps the most learned man of the thirteenth century, who wrote a manual and text-book

for princes and their instructors; but even he has not the full appreciation of the educating force of classical studies, and it is not astonishing that he wished to substitute the study of the Christian poets for those of Greece and Rome.

#### THE REVIVAL OF CLASSICAL STUDIES.

Italy, where, in spite of its mixed population, the Latin language had preserved its greatest purity—whose grandest creation, jurisprudence, made Roman influence felt throughout the world—formed the bridge between classic antiquity and Christianity. Here, where modern life and classic art were closely interwoven, the natural aim of the greatest masters of poetry, painting, and architecture was the intimate union of these two elements. This was the aim of men like Ariosto and Tasso, Leonardo da Vinci and Raphael, Bramante and Palladio. Of the two great Italian poets of the Middle Ages, Petrarch, more than Dante, must be called the restorer of classic antiquity. Dante's education was based entirely on the *trivium* and *quadrivium* of the Middle Ages, and he endeavored to combine systematic scholasticism with Provençal romanticism. Petrarch was more fiery, and exercised a great influence, not only through his own person, but also through his numerous and learned scholars, the most important of whom were Boccaccio, Marsigli, and Salutato.

Of the greatest influence, especially on the study of Greek language and literature, were the many Greek fugitives, who, after the taking of Constantinople by the Turks, came to Italy. Among these deserve special mention, John of Ravenna and Emanuel Chrysoloras.

Thus science was gradually freed from the service of the church and the fetters of scholasticism, and a more refined literary and artistic taste became prevalent. Among the prominent men of this period, there must be mentioned Vittorin de Feltre, (Victorin Rambaldoni, from Feltre,) born in 1378, who founded excellent educational institutions in Padua, Venice, and Mantua, in which the moral supervision of his pupils was of a model character. Another prominent educator of this period was Guarino of Verona, (born in 1370; died, 1460.) After his return from Constantinople, where he had gone to study Greek with Emanuel Chrysoloras, he instructed young men in his native city, and, later, in Ferrara. He translated many of Plutarch's works, Lucian, Isocrates, Basilus, and Strabo; wrote commentaries to many of the Greek classics, a Latin grammar, and a synopsis of the Greek grammar of Chrysoloras. His method was excellent, gradually passing from easy subjects to more difficult ones, and in rhetoric laying greater stress on good models than on dry scholastic rules.

Two men exercised a far-reaching influence through their educational writings, Vergerius and Vegius. Peter Paul Vergerius, (born in 1349 in Capo d'Istria; died in 1428,) the teacher of the Duke Francesco of Carrara's children, wrote a "*Libellus de Ingeniis Moribus et Liberalibus Studiis*," in which he covered the whole field of education, not so much with the view of creating a complete system, as of giving hints regarding the best methods of instruction. Mapheus Vegius (born 1407 at Lodi; died 1458) wrote "*Libri Sex de Liberorum Educatione et Claris Eorum Moribus*," a work of much greater

extent than that of Vergerius, though still far from being really systematic in its arrangement. He dwells on the importance of a good home-training as the basis of all education, gives golden rules for teachers, enumerates the books which should be read, beginning with *Æsop's Fables*, followed by Sallust and the poets.

From all parts of Europe, but especially from Germany, many ardent youths came to Italy, and there gathered the seed which, in their own country, was to ripen into a rich harvest. The classical studies, in their revived form, found themselves bitterly opposed in many countries by the monks and the scholastic philosophers, so that in France and England they did not gain a firm footing till the middle of the fifteenth century, while in Germany their advance was more rapid.

#### THE FORERUNNERS OF THE REFORMATION IN THE NETHERLANDS.

A reaction against the one-sidedness of scholasticism and the presumption of the convent-schools was absolutely necessary, and at the same time it was evident that the effect of the newly-awakened scientific spirit in Italy confined itself to the courts and the aristocracy, and did not reach the masses of the people. Constant party-warfare made the Netherlands a very fruitful soil for higher aims, and the more people felt dissatisfied with the prevailing ecclesiastical forms, all the more was a practical mysticism cultivated, which promised to have a particularly beneficial effect on education. Thus the Netherlands became the nursery of education, which found a home in cities like Deventer, Kampen, and Zwolle, whose glory was not only in their wealth but in their civic virtues. The consciousness that without a true inner union there could be no effectual activity produced the Brotherhood of the Hieronymians, whose chief seat was in Deventer. Their founder was Gerard Groote, (1340-1384,) who, with the view of leading a practical Christian life, exemplified mainly in the education of youth, gathered about his person a number of pious and enthusiastic men. Weak in body, but endowed with a fiery mind, he had for three years studied scholastic philosophy in Paris; but when, at a later period, he was forbidden to preach in his native tongue, he naturally turned to the more quiet field of education. After his death, Florence Radewin continued the work, and founded a convent at Windesheim, which he soon transferred to Mount St. Agnes, near Zwolle. His scholar, Thomas a Kempis, and his numerous associates and scholars, began a grand and far-reaching activity. Their influence was felt far beyond the Netherlands, on the Lower Rhine, Westphalia, Saxony, Pomerania, Prussia, and Silesia. In the "brethren's houses," founded by these men, a pious life was combined with practical and scientific activity. Their models in the treatment of the sciences and languages were the Italian schools.

One of the most famous of their teachers was Johann Wessel, (born 1419.) From Mount St. Agnes he went to Italy, and, through Cardinal Bessarion, became acquainted with the most famous philologists of those times. From Italy he went to Paris, where he met young Reuchlin, on whose studies he exercised great influence. An intense longing for his native country and a quiet con-

templative life induced him to return to the Netherlands, where he died in 1489. He considered the gift of teaching as of the greatest importance, as expressed in one of his sayings, "*Signum scientis est posse docere.*"

At the instance of their teacher, Thomas a Kempis, Rudolf Lange, Count Moritz of Spiegelberg, and Rudolf Agricola went to Italy. Lange collected a large library for the free use of his friends, encouraged the establishment of schools like those of Amsterdam and Deventer, and himself became the reformer of schools in North Germany. The great cathedral-school at Münster was completely re-organized by him. In Hamm, Dortmund, Essen, Herford, Soest, Osnabrück, and other cities of Northern and Western Germany, he either himself established schools or had them established by men who had been educated by him. Spiegelberg founded a school at Emmerich, and Ludwig Dringenberg established the famous school at Schlettstadt, in Alsace. Jacob Wimpheling gained a name by his practical method of instruction and by his numerous and excellent educational works. Conrad Celtes, John von Dalberg, and Rudolf Agricola labored in the same direction. All these, however, were thrown into the shade by two men, who not only were themselves great masters of the ancient languages, but who, by their model method of instruction, transmitted their own knowledge as a lasting treasure to future generations. These two men were John Reuchlin, (1455-1522,) and Erasmus of Rotterdam, (1467-1536.) It cannot be denied that the last mentioned was one-sided in certain respects by allowing intellectualism to predominate to such a degree as to prevent him from assigning to the education of the heart its true place in education, and by deprecating the value of instruction in the mother-tongue; but, in spite of all this, it can truly be said that, without his influence and without the thorough study of the Greek and Hebrew languages which Reuchlin inaugurated, the reformation itself would have been impossible.

#### THE PERIOD OF THE REFORMATION.

The revival of classical studies, and the re-organization of the whole system of secondary education produced thereby, was intimately connected with the reformation of the church. In a certain sense, it may even be said that a gymnasium, as it ought to be, cannot well be imagined prior to the reformation. The relation between the Gospel and the ancient languages, defined by Luther's well-known words, has from that time been the basis of all these superior schools, and was everywhere first awakened by the formal and material principles of the new faith. Both of these demanded, not only for the future servants of the church, but for all whose education was to enable them to give a satisfactory account of their evangelical belief, a training that would enable them to understand the Scriptures, and thereby gain an independent knowledge of the great truths of salvation. The whole study of classic antiquity could, on the other hand, only become of true and lasting value by evangelical truth and evangelical science. The great reformers of the church were well aware of this, and therefore both directly and indirectly labored in this direction. They used the ancient classics, which had come to them from Italy, partly for educating a rhetorical taste and as a suitable preparation for the different scientific

studies, but mainly as the chief pillar of evangelical faith. These two points of view were not always maintained with equal strength and clearness. In establishing schools, the latter (the religious point of view) became more prominent, dedicating and consecrating these schools to the service of God, but in practical life this was often forgotten. As a reason for founding schools, the necessity for maintaining and sheltering the new faith was specially mentioned; and the League of Schmalkald, in March, 1537, expressly pledged itself to reform the old schools, and to establish new ones. Luther himself, in his "Epistle to the Christian Nobility of the German Nation," 1520, and in his "Epistle to the Mayors and Counselors of all the German Cities," 1524, and Melancthon, in his work, "To an Honorable City, of the Establishment of Latin Schools," 1543, strongly expressed the same views.

The course of instruction which was drawn up by the two German reformers, which was revised several times in 1525, 1528, 1530, and 1538, and which in all its details is most complete in the Saxon Church Regulations of the year 1580, requires that the following subjects be taught in the Latin schools: reading; writing; vocal music; Latin, dialectics, rhetoric, and religion. The Latin schools in those times all had three classes, and this arrangement has been kept up in many parts of Germany, especially Hesse and Würtemberg, to the present day. The studies were divided in the following manner: first or lowest class, reading, learning by heart of vocables; later, Donatus and Cato's *Sententiæ*; second class, religion, grammar, prosody and music, Æsop, Mosellan's *Pædologia*, Erasmus's *Colloquia*, Terence, Plautus, the Holy Scriptures; third class, Virgil, Ovid, Cicero's *Officia* and *Epistolæ ad Familiares*, metrics, dialectics, rhetoric. The scholars of the second and third classes had to write a Latin composition every week, and practice Latin speaking as much as possible. Every class had one teacher. The teacher of the second class, termed *cantor* or "*collaborator*," had to give the music-lessons. Instruction was given every week-day for five or six hours, from 5 or 6 o'clock in the morning till 9 a. m. and from 12 m. to 3 p. m. The more important subjects (among these grammar) were taught in the morning, and less important subjects in the afternoon. Scholars were obliged, besides these school-hours, to attend instruction in the Christian catechism every Sunday and twice on week-days. Great stress was laid on repetition of all studies. The exertion of sitting still uninterruptedly for four hours was even in those times a subject of serious complaints. The scholars belonging to the singing-choir, called *currendarii*, received extra instruction in vocal music, but were in return obliged to sing Latin and German psalms and hymns in church, to read the gospel of the day, and according to the custom of those times gained their living by singing, accompanied by their teachers, before the houses of wealthy citizens, especially in the time between Christmas and New Year. In some cities this singing-choir was numerous. Thus, in 1653, it consisted in the city of Cassel of 34 scholars of all classes.

Different from the common city-schools were the higher city-schools, which were established only in a few places, such as Nuremberg, Mühlhausen, Hamburg, Lübeck, Bremen, &c. Besides reading, writing, Latin, and religion,



which were taught in the former schools, they also taught Greek, Hebrew, mathematics, and philosophy. The teachers in these last-mentioned schools frequently employed the acroamatic method, which was repeatedly censured as not preparing the scholars sufficiently for the academical studies. It may, however, be supposed that the method in nearly all the schools left much to be desired.

The difference between these two kinds of schools chiefly consisted in this, that in the higher city-schools a sort of special course was added for those studies which were peculiar to them. If a scholar had gone through all the classes of the Latin school, he could attend these extra classes, and was called *auditor publicus*. There are extant courses of instruction of different gymnasia of this period, *e. g.*, one of Nuremberg. From these we see that the gymnasium originally only had four classes; later, five. The school of St. Lawrence had eight classes. Both commenced with reading and writing, and scholars from both schools immediately entered the university; with this difference only, that the gymnasium almost exclusively admitted sons of the better classes, and was called *schola patriciorum*, which custom was kept up till the eighteenth century. The higher city-schools were chiefly intended for future clergymen. Grammar was studied more than ancient authors. The course of instruction comprised, besides rhetoric, logic, Latin composition, religion, and music. In Nuremberg, we do not find mathematics, Hebrew, and history till 1624. The number of school-hours were 21 to 22 per week.

In accordance with the spirit of the reformation, most of the convents were used for gymnasia, and all through those countries which had adopted the new faith the convent-schools and cathedral-schools were transformed into gymnasia or Latin schools.

Many of the smaller city-schools were, during this period, changed into secondary schools by introducing Greek, Hebrew, philosophy, and mathematics, and were called by different names, *e. g.*, *pædagogia*, gymnasia, &c. The scholars of the lower schools as a general thing learned too little, so that attendance at the higher schools became necessary. The former schools confined themselves to the study of Latin and religion. There was a lack of gradation all round, a want of rational methods of instruction, of suitable text-books; above all, a great want of competent teachers and intelligent inspectors. Toward the close of the sixteenth century, the old Saxon school-regulations, which prevailed throughout the whole of North Germany, underwent many changes, especially wherever the grade of the school was changed from elementary schools to gymnasia. Some of the schools aimed even higher, and gradually rose to the rank of universities.

#### PERSONAL INFLUENCE OF FAMOUS EDUCATORS OF THIS PERIOD.

As the reformation could only be realized by the decisive deeds of *individual* faith, the whole period took its character from certain prominent individuals. There were, therefore, among the immediate contemporaries of the reformers, many excellent educators, whose influence was felt far beyond their own lifetime. As the most famous, the following deserve to be mentioned: Michael

Neander, in Nordhausen; Valentin Friedland, called Trotzendorf, after his birthplace, in Goldberg; Johan Sturm, in Strasburg; Johan Bugenhagen, in Hamburg; Georg Spalatin, in Altenburg; Cyriac Lindemann, in Gotha; Jerome Wolf, in Mühlhausen; Georg Fabricius, in Meissen; Laurentius Rhodmann, in Stralsund; Andreas Boëtius, in Eisenach; Johan Caselius and Georg Calixtus, in Helmstädt; Joachim Camerarius, Eoban Hessus, and Sebald Heyden, in Nuremberg; C. Helwig, in Giessen; Peter Nigidius, Rudolf Goclenius, and Jodoc Jungmann, in Cassel; and many others.

The most influential of all these men was doubtless Johan Sturm, both according to the unanimous testimony of his contemporaries and his own writings. He was considered superior to all teachers of ancient and modern times, the very ideal of a true pedagogue, in the full sense of the word. Especially did his method find numerous admirers and imitators. His most important works are, *De Literarum Ludis Recte Aperiendis*, 1537, in which he gave the organization of his school at Strasburg; *Œconomia Scholæ Lavingianæ, De Educatione Principum*, and *Epistolæ Classicæ*, published in 1565, in which he gave a full description of his method. The results of his teaching were brilliant. His school at Strasburg became the most famous school of the kind in Europe. In 1578 it numbered several thousand scholars, among whom there were two hundred noblemen, twenty-four counts and baronets, and three princes. Besides Germans, there were among the scholars numerous Danes, Italians, Portuguese, Poles, Spaniards, Englishmen, and Frenchmen. Besides the school at Strasburg, he either personally founded several other schools, *e. g.*, at Lauingen, Trarbach, Hornbach, &c., or had them established by his scholars, *e. g.*, at Augsburg by Schenk, Memmingen by Crusius, &c. His course of instruction became the model for all higher schools of the period.

Piety, knowledge, and eloquence were to him the objects of all education, "*sapientem atque eloquentem pietatem finem esse studiorum.*" The educated man was to be distinguished from the uneducated one by sense and eloquence, "*ratione et oratione.*" Knowledge and a pure and ornate speech were to be the aim of all scientific education, "*rerum cognitio et orationis puritas et ornatus.*" From the seventh to the sixteenth year he demands a regular school-education; then a freer education, by attending lectures, to the twenty-first year. The gymnasium was divided into three classes, (*ordines, curiæ, tribus;*) three years to be spent in each class. Of these, seven years were to be applied to the acquiring of a pure Latin speech, (*orationis Latinæ atque dilucidæ;*) the two remaining years to acquiring ornate speech. The five academical years were to be spent in learning to speak with greater facility and to the point, *apte*. The two best scholars of each class were to receive premiums annually. Twenty-seven years later the gymnasium was divided into ten *ordines* instead of nine.

In the tenth or lowest class, the foundation of all knowledge was to be laid. There children were to learn the alphabet; this was to be followed by reading, which was practiced better in learning the Latin declensions and conjugations than by the catechism. The catechism was to be learned in German and not in Latin.

In the ninth class, the scholars were to be grounded more firmly in the declensions and conjugations, adding the irregular ones; many Latin words were to be learned by heart, especially names of every-day objects.

In the eighth class, the scholars must be able to decline and conjugate all the substantives and verbs; they were to be instructed in the eight *partes orationis*, and special care was to be taken that they did not forget what they had learned in the lower classes. Some select epistles of Cicero were to be read with constant regard to grammar. Compositions were to be written during the last months of the scholastic year, while during the first months there were to be oral preparations for this by forming Latin phrases and changing given ones.

In the seventh class, Latin syntax was to be taught in few rules, but with good, especially Ciceronian, examples. This was to be practiced further by the daily reading of Cicero's Epistles. Pliny was right when he said, "*Multum legendum esse, non multa;*" but on this grade the only road to the *multum* led through the *multa*. The subjects for composition were to be taken from what had been learned before, so that at the same time they might tend to strengthen and refresh the memory. Wearisome disquisitions were to be avoided. The teacher should orally and by writing on the blackboard show the scholars how this was to be done.

In the sixth class, longer epistles of Cicero were to be translated into German, also poetical pieces, such as *Veni Redemptor Gentium*, Martial's epigram, *Vitam Quæ Faciunt Beatorem*; Horace's *Rectius Vives*, the *Andria* of Terence, and some fables of Æsop. A beginning was made in Greek.

In the fifth class, the scholars were to study metrics and mythology, and read Cicero's *Cato* and *Lælius*, and Virgil's *Eclogues*; and in Greek the *Educatio Linguae Græcæ*, and the Sunday gospels, with explanations; a number of words with regard to virtues and vices, manners and life of men, &c., were to be learned; and the Latin style was to be further cultivated. During the last months of the scholastic year, they were to be practiced in writing verses. Latin orations were first to be translated into German, and then, during school-hours, *extempore* translated again into Latin. On Saturdays and Sundays one of St. Paul's epistles was to be interpreted, which is to be continued in the higher classes.

In the fourth class, the scholars were to hear, interpret, and learn by heart as much as possible, but nothing beyond their power of comprehension. The following were to be read: Cicero's Sixth Speech against Verres; the speech *Pro Marcello*; Terence's *Adelphi*; select odes, epistles, and satires of Horace; in Greek, grammar and the *Volumen Exemplorum*.

In the third class, the rhetorical ornaments and figures were to be explained and illustrated by examples; the *Rhetorica ad Herennium* was to be studied; and the following to be read: Cicero's speech *Pro Cluentio*; in Greek, some of the more famous orations of Demosthenes, and Homer, (first book of *Iliad* or *Odyssey*;) Greek speeches were to be translated into Latin, and *vice versa*; odes of Pindar and Horace to be translated into different meters; original poems, letters, and compositions to be written. Comedies of Terence and

Plautus were to be acted by the scholars, and in this respect they were to show a spirit of emulation with the higher classes. In the four higher classes, all the pieces of the two above-mentioned dramatists are to be acted. Besides this, the Menippos of Lucian, Cicero's speech *Post Reditum*, and the sixth book of Virgil's *Æneid* were to be read.

In the second class, not the teacher, but the scholars themselves were to interpret; the teacher, however, was to draw the scholars' attention to the relation between the oratorical and poetical use of the language, and make them write down well-known quotations from classical authors in their diaries. The Latin language was to be compared with the Greek; the critical part of dialectics and rhetoric to be practiced. The following were to be read: Cicero's speech for Roscius Amerinus and for Rabirius; in Greek, the Olynthic and Philippic speeches of Demosthenes; also pieces by other authors selected by the teacher or the scholars themselves. Compositions were to be written daily; there were to be also daily exercises in elocution, and St. Paul's Epistle to the Romans to be learned by heart and recited on Sundays. Latin comedies were to be acted in better style than in the preceding classes; toward the end of the scholastic year, a drama of Aristophanes, Euripides, or Sophocles was to be acted.

In the first class, rhetoric and dialectics were to be studied, though not to their utmost extent, as this was to be reserved for the academical studies, but comprising all the *genera* and *partes* as they occur in Aristotle, Hermogenes, and Cicero. The following were to be read: Demosthenes; Cicero's *De Officiis*; Homer; Virgil; the *Phœnissæ* of Euripides, &c. Of Thucydides and Sallust, written translations were to be made, different sections by different scholars. No week was to pass without some drama being acted. In composition and elocution, a *consuetudo literata* was in this class to be expected from the scholars.

From the above course of instruction, it will be evident that the characteristic of Sturm's school was a one-sided formalism far removed from the doctrines of men like Comenius.

The academy connected with the gymnasium was no university in the proper sense, but rather an intermediate institution between a university and a gymnasium; it could only confer the lower academical degrees, and the philosophical faculty, which was the most important, did not leave much room for other studies. Many other educators endeavored to further Sturm's method by writing text-books. Thus the study of the Latin language was made much easier by two text-books written by Peter Nigidius, rector in Cassel, (1539-'49.) These books were founded on experience, and were arranged very methodically. The first is the *Isagogicus Rerum Grammaticarum Libellus*, 1548; and the second, *Selectum Latinæ Grammatices Compendium*, 1556. It is a characteristic sign of the Christian spirit of the times that the introduction contains the Ten Commandments, the Creed, the Lord's Prayer and other prayers. It is in every sense of the word a *vade-mecum* for the scholars, containing a *calendarium*, selections to be read in the different classes, the school-laws and regulations, and songs for several voices for learning the meters. These books were in use

till they were replaced in 1588 by the *Grammatica Latina* of Jodoc Jungmann, which was originally only intended for the higher classes, but of which an extract was made for the middle classes, while for the lower classes he wrote in German his *Elementa Etymologiæ Latinæ*.

#### THE SCHOOLS OF THE JESUITS.

The reformation had given prominence to the right of individuals to a free and true self-determination. The Jesuits, much as they were opposed to the reformation as a whole, did not underrate the immense power and significance of individuality, and therefore made strong efforts to possess themselves of it and make it subservient to the interests of the church. This is the reason why they not only endeavored to make their influence felt in the cabinets of princes, but also made the education of youth one of their specialties. Their schools and educational institutions soon spread through Europe, and even Protestants frequently confided their children to their care. Pope Julius III, 1552, gave them permission to establish schools everywhere; Pius IV confirmed this; and Pius V, 1571, expressly added that they should also be permitted to establish schools in places where there were universities. With such encouragement, their number grew most rapidly. Italy, Portugal, and Spain were their first fields of action; Germany, Poland, and Hungary followed without offering much resistance; only in France they could not establish a college till 1565, owing to the violent opposition of the Sorbonne, the university, and the parliament; but after that year they increased rapidly, so that in 1600 they possessed 200 schools in France, and 669 in 1750. The first Jesuit college established in Germany was that of Vienna, 1550; in 1556 there followed the colleges at Cologne, Prague, Ingolstadt; in 1559, Munich and Tyrnau; in 1563, Dillingen; 1569, Braunsberg; 1575, Heiligenstadt; and many in other German cities.

The founder of the Jesuit system of education is Claudius Aquaviva, (died 1615,) who, in his position as general of the order, first regulated this whole matter, and in this was solely guided by hierarchical interests. The study of the humanities and of the mathematical sciences chiefly recommended themselves in this direction; by the dead mechanism, the religious interest was almost systematically smothered; while the instruction in philosophy fettered the freedom of thought and led to blind belief in authority, and even the moral sentiments were weakened. The former educational work of the monks, especially of the Benedictines, was insignificant compared with the immense activity of the Jesuits, and even the schools of Port Royal could not equal them. The influence which they acquired over the personal life of individuals was astounding. Clement VIII, (1592-1605,) began to fear them; France, in 1762, abolished the order, which example Spain and Naples, and even in 1773 Pope Clement XIV, followed. Pius VII, after having been freed from Napoleon's power, re-established the order of the Jesuits in 1814; this is "the first great act" of the second part of his reign. Now they could again, according to the principles of their institution, "instruct young men in the rudiments

of faith and good manners," "pay special attention to the education of Catholic youth," and establish seminaries and colleges.

The oldest course of instruction of the Jesuits, the *ratio et institutio studiorum societatis Jesu*, was in the year 1588 drawn up by six *patres* and finally published in 1599. Its most essential features have been preserved to the present day. Externally it very much resembles Sturm's course of instruction, but at the same time differs much from it in reality.

Their institutions were divided into two divisions, a higher and a lower one, (*studia superiora* and *inferiora*.) At the head of the whole there was a rector, and each of the two subdivisions was under a *præfectus*. The *studia inferiora* corresponded to the course of a gymnasium and had five classes, viz, *infima*, *secunda*, *tertia*, (also called *syntaxis*), *quarta*, (*poetica* or *humanitas*), and *quinta*, (*retorica*.) In these classes, five teachers taught Latin, enabling their scholars to acquire considerable proficiency in speaking and writing that language; also catechism in Latin. The other subjects of a gymnasium-course were almost entirely wanting; for though Greek and mathematics are mentioned in the school-books of the Jesuits, little or nothing of these was taught at that period. The teachers were young men educated by the Jesuits, who had entered the order after having finished a philosophical course, and who, after having passed through a three-years' novitiate, went through the whole gymnasium-course as *magistri*; then passed on to the two-years' theological study; and finally entered the order as full members. The education of these teachers was, therefore, naturally very defective, and the harm done by them was all the greater, as they passed on with the same scholars from one class to the other. The method of instruction left much to be desired. In Latin, especially, the firm grammatical foundation was wanting; instruction mostly consisting in the mechanical learning by heart of the grammatical rules put in half Latin, half German verses. The scholars were not made thoroughly acquainted with a single Latin author; there was no historical and critical explanation—nothing but translation of disjointed fragments from different authors. German was not taught at all. Instruction in mathematics, natural philosophy, history, and geography scarcely existed; rhetoric and logic were taught in the driest manner possible, exceeding in one-sidedness even Sturm's method.

The educational method of the Jesuits was also very unsatisfactory. Free study was hindered by disciplinary measures. Innumerable festivals and saints' days interrupted the regularity of the course, and by constant dictation the power of judgment was weakened. As their whole aim in studying the ancient classics was only the formation of a good style of writing, they venerated Cicero above all other authors; but even his works were not studied thoroughly; only disjointed phrases were repeated in writing and orally; also Latin poems, frequently compounded in a very incongruous manner of phrases, from Virgil and the works of other poets. Latin plays were also acted, but none by Terence and Plautus; only plays written expressly for the occasion.

In morals and religion, implicit obedience was demanded. The scholars were to be prepared for obedience, the love of God, and virtue; but all this was to center in submission to the will of the superior, in the last instance the general

of the order. The teacher was to pray for his scholars, and "with confidence recommend them to the Most Blessed Virgin and the Saints, especially to those who are the patrons of studying youth." The scholars were to accustom themselves "to say certain prayers to God and his saints, and for the sake of variety sometimes recite them by heart, and at other times read them off from some book, particularly the Corona, the Officium, and the Litany to the Most Blessed Virgin. He who has missed his devotions shall, as a punishment, pray for some time in the chapel, or shall attend a second mass," &c. Those who distinguish themselves by great piety are to be praised and rewarded publicly. The same was done with regard to diligence and other virtues. Emulation was considered the most approved method of furthering the scholars in their studies. He who spoke the common language (German) instead of Latin was punished; but if he could give information to the teacher of some other scholar's having committed the same offense, he was let off free. Artificial punishments, with special names, were much in vogue. Corporal punishments, however, were applied as rarely as possible, and then by non-Jesuits. The love of family and relatives gradually passed away, so that in the end there remained nothing but love to the order.

#### THE SCHOOL-REGULATIONS OF THE PRINCIPAL GERMAN STATES.

Sturm's and Trotzendorf's regulations remained the standard for a long time, although they were here and there modified according to local circumstances. The spirit of the period is reflected in these regulations. As of special importance, and forming models for many others, we must mention the school regulations of Wurtemberg, Saxony, and Hesse-Cassel.

In Würtemberg, as early as 1501, the Stuttgardt school-regulations recommended speaking and writing Latin, and decreed punishments for speaking German. Bebel, (died 1516), in Tübingen, worked for the purification of the Latin style; Reuchlin, (died 1522,) for including Greek and Hebrew in the course of instruction. Duke Ulrich, who introduced the faith of the reformers into Würtemberg, in his instructions to the school-visitors, dated 1546, says, among the rest, "Because in many cities there are, besides the Latin schools, also German schools, by which the former are injured, many boys being neglected who are fit for learning Latin; therefore, for the honor of God, such German schools shall be abolished in the smaller cities, as every Latin scholar through Latin also learns to read and write German." As subjects of instruction he mentions "*languages, arts, and, above all, music.*"

The Regulations for the Latin Schools and the Pædagogium in Stuttgardt, given by the wise Duke Christopher in 1559, relate to all the secondary schools, are uniform and very excellent in most respects, so that almost up to the present day they have formed the basis of the system of secondary education in Würtemberg. In every town, and even in the larger villages, Latin schools were to be established, furnished with suitable teachers, and, according to the local wants, divided into two or more classes. Only the five upper classes were found in the Pædagogium at Stuttgardt; from 1582, six. Large classes were to be divided into *decuriæ*, (each of ten scholars,) presided over by one of the

scholars termed *decurio*, who was to be elected weekly, and was to act as monitor. The number of hours of instruction were six per day : in summer, from 6 to 7 in the morning, ("after the morning-soup,") 8 to 10 ; in winter, 6 to 8, 9 to 10 ; in the afternoon, 12 to 2 and (with the exception of Thursdays and Saturdays) 3 to 4. The lowest class was called *prima* ; the next, *secunda*, &c. In *prima*, the scholars learned to read and write Latin and German : first, the alphabet ; then, the *Pater Noster*, then the *Paradigmata Declinationum et Conjugationum*, the *Quæstiones Grammaticæ Philippi*, (Melanchthon,) and *Cato Minor*. Every day the scholars learned two Latin words, *ex nomenclatura rerum*, and a piece from the German catechism. In *secunda*, the teacher shall first explain to his scholars the *Mimos publianos*, and then *Cato* word by word ; then repeat what has been read, and mention from this a noun and a verb and give their declension and conjugation. Each day the lesson of the preceding day is to be repeated ; then practice well in *etymologia*, &c. ; in addition, every day one or two *præcepta* from the grammar. The teacher is to assist the scholars in all this. After the *exercitio musicæ*, he is daily to correct the *Scripta*, the *Proverbia Salomonis*, the *Dialogi Sebaldi Heiden*, and the Latin catechism, and commence Latin speaking. In *tertia*, the *Fables of Æsop*, (Camera-rius's edition) and the *Conversations of Castellio* ; later *Cicero's select epistles* and *Terence* are to be explained thoroughly. For further practice in *scribendo et loquendo*, the teacher shall dictate good phrases ; sometimes pick out a verb from the dictionary, show its etymology and conjugation ; read a rule from the syntax every day, and illustrate it by examples. Every Wednesday there is to be an exercise in style from the lessons heard last, as much as possible in the same words, changing only the genders, numbers, &c. In *quarta*, *Cicero's Epistolæ Familiares*, *De Officiis*, *De Senectute*, *De Amicitia*, are to be read ; the whole syntax is to be repeated ; prosody is to be commenced ; the elements of Greek are to be taught, and the little Greek *Catechismus Brentii* is to be explained. In *quinta*, all that has been studied is to be more firmly grounded ; *Ovid's Tristia* and the *Gospels in Greek and Latin* are to be read ; prosody is to be continued ; and compositions are to be written. In *sexta*, the course comprises dialectics and rhetoric according to Melanchthon, some of *Cicero's orations*, *Livy*, *Sallust*, and *Virgil's Æneid*, with special regard to the *elegantia Latinæ linguæ* and the *artificium poeticum*, grammar, prosody, composition ; in Greek, grammar and *Xenophon's Cyropædia*. To encourage piety, the *Veni Sancte Spiritus* and the *Veni Creator Spiritus* are to be sung at the beginning of the lessons in the forenoon and the afternoon, and then a portion of the catechism is to be recited. On Fridays, the catechism is to be explained, and on Sundays the gospel in Greek and Latin. On Sundays, the scholars are to go to church in procession.

When in 1580 the higher schools were organized in the present kingdom of Saxony, these original Würtemberg regulations seem in the main to have been followed as a model, with the only difference that the number of classes were five and that more attention was paid to arithmetic. As a somewhat higher grade, there were established three so-called "princes' schools," (*Fürstenschulen*), at Meissen, Grimma, and Schulpforta, which prepared scholars for all the aca-



demic studies. They had three classes, with a two-years' course in each. There was also a difference observable between the Würtemberg and Saxon school-regulations in the choice of the authors whose works were to be read. Thus, in *prima*, grammar, Mimi publiani, Cato, Epistolæ Familiares; in *secunda*, syntax, Epistolæ Familiares, Virgil's Bucolica, Ovid's Ex Ponto, Tibullus, Rudimenta Græcæ Linguae, Æsop's Fables, arithmetic, and music; in *tertia*, Melanchthon's entire Latin grammar with the additions by Camerarius, Cicero's Officia, De Senectute, and De Amicitia, Tusculanæ Disputationes, Virgil's Georgics and Æneid, Horace's Odes, Isocrates, Theognis, the Aurea Carmina of Pythagoras, the Iliad, Plutarch's De Liberorum Educatione, rudiments of Hebrew, dialectics and rhetoric, Quæstiones De Sphæra, and Rudimenta Astronomiæ M. Blebelii. The comedies of Terence and Plautus were annually to be acted by the scholars, in order to accustom them to speak elegant Latin. The teacher, however, is to guard them carefully against the vices which are frequently found in the chief characters of these plays. These Saxon school-regulations were in the year 1773 renewed in a most excellent manner, though with certain modifications.

The school-regulations of Hesse-Cassel and other German states were very similar.

#### THE REALISTIC AND METHODIC MOVEMENT.

Erasmus had expressed his wish that the *grammaticus* (student of philology) should possess the varied knowledge which was indispensable for the understanding of the ancient classics, such as mathematics and natural sciences although he thought that absolute mastership in these studies was not required. Melanchthon, also, guided by a similar desire, had endeavored to get a more universal system of education introduced in Tübingen, and continued to work in the same spirit during his whole life. He wished that the best works on physics might be read, was in favor of the study of astronomy, and recommended the work De Sphæra, by Johan de Sacrobusto, as a text-book. In the preface to his edition of Aratus, he declares expressly that natural philosophy ought to be studied from the Greeks. He also endeavored again to introduce mathematics, which at that time was much neglected; the professor *mathematicæ* in Wittenberg only lecturing on the four first rules of arithmetic. Luther likewise repeatedly advocated the study of history, mathematics, and astronomy. It was, therefore, certainly not the fault of the reformers that these studies did not flourish much till the seventeenth century. Then, when the one-sidedness of formalism had reached its highest point, a reaction of the realists against the formalists set in.

A totally different reaction was inaugurated by Francis Bacon, the contemporary of Shakespeare and Kepler. He is the founder of the realistic method, and in this respect the true precursor of Ratichius and Comenius, the latter of whom especially developed and used Bacon's leading ideas.

Wolfgang Ratichius, (Ratich,) 1571-1635, and Johan Amos Comenius, 1592-1671, by opposing the prevailing extreme views, again went too far and rushed into other extremes. Every method that had existed hitherto was by them declared entirely unmethodical. Their aim was, therefore, not to give *one* new method,

but to create the method itself as something entirely new. Faithful to Bacon's principles, they wanted by appropriate text-books to attain to that mental uniformity which would make the less talented scholar the equal of the talented one if he would only study his text-book conscientiously. Besides memory, the cultivation of which they not unjustly called one-sided, and the value of which they did not fully appreciate, they wished to have the reasoning powers more developed. But by going too far in this direction, they destroyed fancy and the true appreciation of the beautiful. By the artificial and strict calculation which pervaded their whole method they deprived the pupil and his studies of all natural life. Involuntarily they worked for the philanthropists, as they endeavored to make everything easy by the method and expected everything from the latent enthusiasm of the scholar. As, like the Jesuits, they separated instruction from education, they considered all punishments as superfluous, because they maintained that a truly natural method would of itself call forth a love of study. But while implicitly relying on their methodical infallibility, two schools formed themselves almost unconsciously, some following an absolute model of education and, with aristocratic presumption, taking no regard to individuality; others, with more democratic tendencies, endeavoring to develop individual talent. The great extent in the uses of the Latin language again awakened greater care for the mother-tongue, which at the same time might serve to widen the strong difference between the "studied" and the "unstudied." They deserve praise for paying more attention to realistic studies; but by neglecting the Latin language, they also lost all true appreciation of classic antiquity and the historic sense. This is to be regretted all the more, as both men have their undeniable merits, and have in many other ways exercised a widely-felt and beneficial influence.

The realism of these two educators also favored the denominational quarrels which since the latter half of the sixteenth century shook the whole social and political fabric of the German nation to its very foundation. The Latin language was frequently only studied with a view to theological disputations; the classical authors were read without choice or order; logic and rhetoric were studied for this express purpose; while Greek was neglected to such a degree that the scholars scarcely learned enough for reading the New Testament. The whole attention was absorbed by the public disputations and declamations, where young men found an opportunity of satisfying their ambition. Thus, in the academic gymnasium at Dantzic, a solemn public disputation was held every month, and a still grander one every quarter, which the Sunday before was announced in the churches. The same was the case in nearly every German gymnasium and Latin school. Much more harm, however, than by all these methods was done to the German secondary schools by the culmination of the denominational strife, the great Thirty Years' War.

#### THE PERIOD OF THE THIRTY YEARS' WAR.

The general desolation which was an unavoidable consequence of the long religious strife exercised a very baneful influence on education, and more especially on the secondary schools. The following are merely instances picked

out at random from among a very large number. The Protestant school at Friedberg, Hesse, was deprived of almost all its scholars, so that it was near extinction in 1630, and was only saved by the victories of Gustavus Adolphus. The Protestant gymnasium at Hersfeld was, in 1629, turned over to a Catholic priest and Jesuit teachers. Tilly here enforced the edict of restitution by force of arms and made a fearful havoc. In 1632 the gymnasium again received Protestant teachers, but in 1634 it was again closed by the imperial general Götz, the teachers flying to Cassel and other places. In 1636 it was opened, soon to be closed again, and so on till the end of the war. The city of Göttingen was besieged for two months in 1626; and Fabricius, the famous rector of the gymnasium, with the teachers and some of the scholars, had to fly to Mühlhausen. In Schulpforta, the scholars had often to be dismissed on account of the war; teachers and scholars were frequently scattered by sudden surprises, and there was often an almost entire want of food. Under such circumstances, the first jubilee of the institution in the year 1643 was a very sad one. Even Wittenberg, which was strongly fortified, could not continue her educational work undisturbedly, and teachers' places remained vacant for years. In Altenburg, the rector of the gymnasium was cruelly tortured by soldiers; but even during the greatest trials never lost confidence in the future of his school, which was attended by more than six hundred scholars. In Glogau, clergymen and teachers were obliged to fly, and the city remained for four years without school and divine service. The gymnasium at Stargard became, two years after its opening in 1635, a prey to the flames during the siege by the imperialists. Teachers and scholars were scattered, and it remained closed till 1646. The famous gymnasium at Goldberg was entirely closed in 1621; and from its remaining funds Duke Georg Rudolf, in 1648, founded a school for young noblemen in connection with the church of St. John at Liegnitz. The gymnasium at Beuthen had to be closed in 1629, as likewise the one at Oels. Many other gymnasia during this period passed into the hands of the Jesuits. These few examples will suffice, although they might be increased indefinitely. The saddest result of all these external devastations was the enormous increase of immorality among the students of all ages, which could not be remedied either by princely mandates or by the serious efforts of educators after peace had been restored.

#### THE PERIOD FOLLOWING THE PEACE OF WESTPHALIA.

After peace had been restored, great changes were gradually wrought, both in method and in matter. The Latin language, which had gradually become the second mother-tongue in the German schools, and was, therefore, studied in the same manner, especially by constant speaking, began here and there to fall into practical disuse, and its study was confined to the reading of classical authors. At the same time, the desire for a grammar of the Latin language written in German was loudly expressed, and such a one was in many places introduced, at least in the lower classes. The custom of acting Latin dramas also gradually gave way to similar performances in the German language, at least as early as the last decades of the seventeenth and the first of the eighteenth centuries.

Thus we read that in 1740 the scholars of the gymnasium at Glogau acted in German The Lost and Found Young Princes, Theogenes and Charicleia; and later, *actus dramatici* are reported in the same place of the most expensive character, and lasting three days.

We find a strong national reaction, which had to undergo severe trials during the eighteenth century, but which could never be entirely suppressed. The last remnants of Roman supremacy disappeared; German became the language of the governments; French the language of diplomacy; while Latin, with the Catholics, continued to be the language of the church. German now also began to be the language of science; and at the University of Halle, founded in 1694, Christian Thomasius was the first who lectured in German. From this period on Latin could only keep its own with great difficulty; for the demand to see German included in the regular course of instruction grew stronger and more universal every day, so much so that the study of Latin seemed to be in danger. The Hamburg school-regulations of 1732 limit Latin speaking and Latin disputations to the two highest classes, but prescribe at the same time that the study of German should be commenced as early as possible—at any rate, not later than in the fourth class; that in the highest class the works of standard German authors should be read, and their works should be imitated by writing German letters, compositions, orations, &c. This was very generally demanded about the middle of the eighteenth century, at a time when the decadence of the German language had reached its climax, when it was largely intermingled with Latin, and still more with French words. This indispensable study of German again led to the dispensing with the study of Greek in the case of many scholars, and gradually even differences of rank became influential in the course of instruction. Thus we find in the gymnasium at Görlitz a special course of instruction for the noble scholars, in which Greek is wanting. Mathematical lessons were also separate for them. It says literally in the regulations, “We distinguish the children of noblemen from those of low birth among the rest by this, that we allow them to have a more intimate intercourse with their teachers, and exempt them from various duties which the other scholars must fulfill.” In accordance with such principles, great attention was, in the study of history, paid to genealogy and heraldry, and dancing was in many gymnasia included in the course of instruction. This strong difference in the treatment of noble and other scholars, which was at variance with the true aim of the gymnasium, led to separate institutions of learning for young noblemen, *e.g.*, the Knights’ Academy (*Ritter-Akademie*) at Liegnitz, (founded by the Emperor Joseph I in 1708;) the Lüneburg Knights’ Academy, (founded 1655, closed 1819;) the Brandenburg Knights’ Academy, (founded 1704, closed 1848, re-established 1856;) and many others.

But also in other respects did the character of the gymnasia change very much. As subjects of study we find at this time, among the rest, military and civil architecture, astronomy, gnomonics, botany, theoretical and practical philosophy, &c. When Landgrave Wilhelm VI of Cassel transferred the University of Hesse from Cassel to Marburg, he gave to that city in its stead a

lyceum (1657-'61) for studying the *fundamenta philosophiæ et theologiæ*. There were also included in the course of instruction, history, geometry, and Hebrew. German was studied as far as the fifth class, (the second highest;) instruction in religion was given in the German language. In reality, there was not much progress; the classes were as a rule combined, (making only three instead of six,) and the results were consequently less satisfactory. The study of Greek actually declined; neither Homer nor Demosthenes were read; and in the selection of studies the greatest arbitrariness was displayed.

In some of the states, a thorough re-organization of the school-system was favored by the beneficent influence of excellent and pious princes. This was especially the case in Gotha during the wise reign of Duke Ernst, (1641-'75,) who ordered a thorough examination of the gymnasium at Gotha in order to remedy all existing evils. With regard to those young men in the higher classes who intended to devote themselves to scientific studies, it was settled, that next to the *exercitium pietatis*, the Latin language, as the foundation of studies, should be taught thoroughly; but, besides this, Greek, Hebrew, history, mathematics, philosophy, logic, rhetoric, principles of poetry, eloquence, and music. The works of the ancient classic authors were merely considered the vehicle for the illustration of grammatical and rhetorical rules. All this was changed by Duke Ernst, and the works of the ancient authors were again read for their own sake; in Greek, especially Isocrates, Theognis, and Æsop; and in Latin, Cicero, Justin, Nepos, Terence, and Plautus. He knew well the value of a good method of instruction, and, therefore, had a book *Instructio*, prepared and published, which was to serve as a guide for teachers. He also had quite a number of new text-books prepared, the *Janua* and the *Vestibulum* of Comenius, and a *Vocabularium Comenianum*. Salomo Glassius, the church- and school-superintendent at the time, revised the *Compendium Hutterianum*, Veit von Seckendorf, chancellor of the duchy, in connection with other learned men, edited a *Schola Latinitatis*, and a *Compendium Historiæ Ecclesiasticæ*. The largest number of text-books, however, was edited by Reyher, rector of the Gotha Gymnasium; among which there was also a sort of philosophical and philological encyclopedia, (*Margarita Philosophica et Philologica*.) The influence of all these efforts, which in most cases were begun by the duke himself, was not confined to Gotha, but was felt throughout the whole of Germany and even beyond its confines.

If there was danger that through the great mass of material and the numerous methodical suggestions and measures this noble educational zeal might be led astray—if in many cases the scholars had to go through literary exercises which were far beyond their power of comprehension, the desire for greater simplicity would naturally produce a reaction. On the one hand, humanism was opposed, and the system was, therefore, again reduced to a one-sided formalism; and, on the other hand, reason was cultivated to excess, thus extinguishing all deeper Christian life. The former tendency favored the introduction of Locke's educational ideas, while the latter produced the pietism of the Halle school.

Locke's system was based on sensation; but in its different portions and in the inconsistencies of its application, it can scarcely be understood except as viewed in connection with the strange circumstances of his life. He viewed everything in education from the stand-point of knowledge acquired through the senses, and was opposed to idealism, fearing its abuse; and still he was constantly obliged to seek refuge in those supports which, in the proud feeling of seeming independence, he had thrown away. His chief attention was directed to psychology, the great importance of which for education cannot be denied. Mere knowledge seemed of very little value to him. He says, "People make a great ado about a little Latin and Greek, and for seven to ten years a child is plagued with these two languages, which it could have learned easily in less time and in a playful manner." In his recommendations for learning languages, he follows partly Ratichius, partly Comenius. French is to be studied first, in early youth, paying particular attention to a correct pronunciation, and, in the only proper manner, by speaking; Latin is also to be learned by speaking, but all those who have no use for this language in after life are to be exempt from it. The students are not to be troubled much with Latin grammar; but an endeavor should be made to procure teachers who could constantly speak Latin with the scholars; and if this were impossible, some entertaining book, *e. g.*, the fables of Æsop, (if possible, illustrated with engravings;) the scholars should also be supplied with a faithful interlinear translation, study this as well as the original, and learn the declensions and conjugations. Æsop should be succeeded by Justin and Eutropius, also with the aid of a translation. The study of grammar was to be left to the philologists. From the old classics, real knowledge should be gathered about minerals, plants, animals, &c.; he also recommends Latin conversations on geographical, astronomical, chronological, anatomical, and other similar subjects. He does not advocate Latin compositions. From the classics no large passages, but only such as were distinguished by particular beauty, should be learned by heart. Geography should be studied early; then arithmetic, mathematical geography, and astronomy; in geometry, the first six books of Euclid. Chronology should be studied in connection with geography; history could best be studied from the Latin classics. Later, the scholars should read Cicero *De Officiis*, Pufendorf *De Officio Hominis et Civis*, Grotius *De Jure Belli et Pacis*, and Pufendorf *De Jure Naturali et Gentium*. For the study of rhetoric he recommended the writings of Cicero; in metaphysics, the Bible was to be the foundation of all study; for the rest of philosophy, especially for logic, he recommended Descartes; and for physics, the "incomparable" Newton. Greek he considered unnecessary, except for professional philologists. Dancing, he thought, could not be taught early enough, while he banishes music. Riding and fencing, he, of course, considers as absolutely necessary for a young man of rank; but, as a general thing, he declares that virtue and wisdom are of greater value than all knowledge.

August Hermann Francke, who carried out Spener's idea that the school should be chiefly instrumental in implanting true piety in the hearts of young men, was born in Lübeck, 1663; studied theology and philology in Erfurt and Kiel; and in 1691 became professor of Greek and Oriental languages in Halle, where he died in 1727. He founded a number of flourishing educational institutions in Halle, of which only the *Pædagogium*, being a secondary school, will be considered in this place. He commenced this institution in 1695 with three young noblemen, and in 1705 the number had increased to seventy, for whom in 1711-'13 he built a large and comfortable house. The peculiarities of his system now became apparent at once, as soon as the external arrangements had been completed, and a tendency toward more realistic studies showed itself; the institution possessing a botanic garden, a museum of natural history, a physical apparatus, a chemical laboratory, a dissecting-room, turning-lathes, &c.

The way for this realistic tendency had been prepared long since, but new life was infused into it by the necessity of making a bold front toward one-sided formalism. The text-books of Comenius had paved the way, and during the seventeenth century it had more and more gained ground. Comenius's books had found their way into almost every gymnasium, especially his *Orbis Pictus*; but the aim in view was not yet fully reached. The knowledge of the objects depicted was less thought of than the acquiring of a supply of technical terms, for which the pictures were only to serve as a mnemonical aid; but when an attempt was made to introduce, instead of this, the *Libellus Memorialis* of Cellarius, this was found to be insufficient. Practical life had become a power, and demanded its right in the school.

In Francke's system too much stress was laid on this right, and it became a question of mere practical usefulness. Among the subjects of instruction, there were even chronology, astronomy, music, painting, anatomy, rudiments of medicine, besides all the languages and sciences usually studied in such schools, while Greek was very much neglected. Francke and his followers completely banished the Greek classics from their schools; all that was read in Greek being the New Testament, the Homilies of Makarios, and Nonnus's Paraphrase of John. While botany is mentioned in the earliest courses of instruction, and since 1714 also oratory and logic, French is wanting altogether. Even instruction in mathematics was of an entirely realistic character; the text-book used being *Mathesis Compendiaria*, by J. C. Sturm. This work, profusely illustrated with copper-plates, contains, on 79 large-sized pages, general mathematics, practical arithmetic, theoretical and practical geometry, optics, military and civil architecture, cosmography, chronology, gnomonics, mechanics, and chiromancy.

As two peculiarities of Francke's system, we must mention, first, the stricter and more logical succession of studies, and, secondly, the so-called parallel system, according to which a scholar might advance in one study and be promoted into another class, but remain in a lower class in some other studies. This

system prevailed in a great number of gymnasia, in one even as late as 1855, but as a general rule it was abolished in the early part of the present century.

The Pædagogium at Halle was considered for a long time not only as the model gymnasium for the whole of Germany, but likewise as a sort of normal school for gymnasium-teachers; a large number of its former scholars becoming teachers in various parts of Germany.

The Halle system of instruction was introduced in innumerable German gymnasia, but its influence was frequently weakened by theological quarrels. Thus, the rector of the gymnasium in Gotha introduced special Sunday-afternoon services for the students, in which they had to recite pieces from the New Testament and deliver orations on theological questions. The same was done in Cassel, and in a number of other places. Thus it must be said that, although the Pietists and their time formed a refreshing oasis in the arid desert of the now apathetic Protestant churches, their influence on the development of education was, comparatively speaking, small.

The most important result of Francke's activity is, doubtless, the establishment of separate real-schools. J. S. Semler, a Halle clergyman and friend of Francke's, distinguished by his knowledge of mechanical and mathematical sciences, announced in 1706 the opening of "a mechanical and mathematical real-school." This is the first time this term is employed. His principle was "*non scholæ, sed vitæ discendum*." Receiving some financial aid from the city authorities of Halle, he had twelve poor boys instructed in his own house by a man specially learned "*in mathematicis, mechanicis et æconomicis*." In giving instruction, 63 models of *objecta singularia* were employed. Semler's school, however, only existed about two and a half years. The first actual German real-school was established in Berlin in 1747 by Johann Julius Hecker, a former Halle student, and for some time teacher in Francke's Pædagogium. This school, properly speaking, consisted of three schools, viz, the German school, the Latin school, and the real-school. Scholars of the first two schools could also participate in the instructions of the real-school. In this school, the course of instruction embraced arithmetic, geometry, mechanics, architecture, drawing, natural philosophy, anatomy and physiology of the human body, botany, mineralogy, &c. Instruction was also given in the cultivation of silk-worms, and the scholars were frequently taken to different workshops. Among the different classes we find enumerated a manufacturing class, an architectural class, an agricultural class, a book-keeping class, and a mining class. To show that Hecker carried out Semler's principles to a caricature, we mention the fact that in the manufacturing class 90 different kinds of leather were shown to the scholars.

Hecker's successor, Johann Elias Silberschlag, called the three schools pædagogium, art-school, and German or mechanics' school. The last mentioned was the elementary school, with a special class for mechanics; in the art-school, a foundation was laid in mathematics, Latin, and French; and the pædagogium corresponded with the upper classes of a gymnasium. The art-school finally became a sort of separate special school; the pædagogium in 1797 received the name of Friedrich-Wilhelm's Gymnasium, and was in 1811 completely sepa-



rated from the real-school. This real-school has in most respects served as a model for all similar institutions in Germany; though, as was natural, the course of instruction was considerably modified and changed in course of time, so as to be better adapted to the demands of the age.

#### THE PHILANTHROPISTS.

Among the unfortunate consequences of the Thirty Years' War, the most unfortunate was the fact that national life in Germany had sunk very low. The religious interests had lost their hold on the mass of the people, and the peace of Westphalia had almost sacrificed them to the worldly and political interests, so that they fell into the hands of the learned and became a mass of mere dead formulas. The great chasm between the different classes of society, which has always been a characteristic of German life, had become still greater. The better classes felt attracted by foreign, especially French, education, and had their children instructed, or at least prepared for the higher schools, by foreign tutors. Many of these possessed but little real knowledge, and the consequence was that scholars entered the gymnasium who were not fully prepared for it. This, again, exercised an influence on the lower classes of society, to meet the demands of which schools were started, which prepared young men for the actual duties of life by giving instruction in the mother-tongue and useful knowledge. Many of these schools, however, were of such a character as to hinder rather than to further the general development of education. We learn much about the state of education at that period in the official complaints, by Rector Stuss, in Gotha, published in 1736, together with hints as to how matters could be remedied. But we notice in these complaints vast concessions to the spirit of the times, which is all the sadder, as the period was one of general decadence and degeneration, in which bad taste and pedantry were prevalent among the teachers and immorality among the students. To suit the tendency of the times, geography, history, and mathematics were to be introduced in the second and third class; German and other modern languages were to be studied more extensively; and in the highest class philosophy was to be studied, not according to the principles of Aristotle, but those of the eclectic school. And as the lessons in this class were only calculated for future theologians, it would be desirable to have a teacher teach the elements of natural sciences. Under these circumstances it is not to be wondered at that the Berlin Real-School aimed directly at the education of miners, farmers, mechanics, &c. It can finally not be denied that the powerful influence which Frederick the Great exercised on the whole of Germany, especially with regard to manufactures and industry, was likewise felt on the field of education.

On such a soil the seed of the philanthropists could grow and flourish for a time. The chief representative of this whole school is Basedow, (1723-'90,) and his followers, Wolke, Trapp, Salzmann, Campe, and others. Basedow's school, the model for all similar institutions, was the Philanthropin at Dessau, which was in existence from 1774 to 1793. Some of the schools founded by Basedow's scholars survived the mother-school, and one of them, Salzmann's

school at Schnepfenthal, near Gotha, is even at this day in a flourishing condition.

The chief object of the philanthropists' method is the systematic education of a youth to a man in the full sense of the word; but the man who is to be the result of this system of education is man with his present requirements, not man with his higher gifts and higher destination. The philanthropists wanted to do everything by their method, and one of the first demands expressed was, therefore, for a practical teachers' seminary, or normal school. The prevailing method of instruction was considered very defective, especially as so much was learned by heart without being thoroughly understood. The will was to be guided by reason, and only in exceptional cases by punishments. The philanthropists became entangled in contradictions; for while they intended to teach the scholars how to avoid sin by holding it out as a warning example, they feared the Bible and the ancient classics as offering too great a chance for becoming acquainted with certain vices, and, therefore, used extracts from the Bible and the classics. Basedow's own works, however, could not pass the muster of a thorough criticism; and especially his Latin works, his *Liber Elementaris* and his Latin *Crusoe*, could in no wise fill the place of the ancient classics. It is, therefore, but natural that the scholars of the Philanthropin were in the study of Latin far outstripped by all other schools. They had not even the dimmest conception of the deep significance and the educational power of this language. Their method finally became entirely dead and mechanical, and text-books served more as teachers than living personalities. It can not be denied, on the other hand, that by their text-books they were of indirect use to education by awakening a more general interest in the subject. This was chiefly brought about by the brief existence of Basedow's institute at Dessau, scattering the scholars into all portions of Germany.

#### THE MODERN HUMANISTS.\*

Though the influence of Prussia's great king and the decided tendency of a large portion of the nation toward that kind of knowledge which was useful for practical life only favored the philanthropic ideas, they did not spread very much, for in the German nation there was still left too much love for the ideal. There still lived and worked in many schools educators, whose activity, though creating but little noise, was a healthful one, who loved the Gospel as much as they did the ancient classics, and who bore a true and fervent love to the youth intrusted to their care. But, still, there was great danger that, without a new and great revival, shallowness and scepticism, favored by the introduction of French morals and French education, would gradually gain the victory.

This revival was brought about partly by the new life which was infused into the study of the ancient classics, partly by awakening a better understanding of ancient art, and partly by the classic period of German national literature, which just then took its commencement; and it is difficult to say which of these influences was strongest. Since Winckelmann and Lessing had revealed the

\* "Humanist—One who pursues the study of the *humanities* (*literæ humaniores*) or polite literature."—WEBSTER.

splendor of ancient art, and from it had deduced the eternal laws of true beauty, the study of philology in Germany assumed a higher character.

Closely connected with this study of antiquity was the classic revival of German national literature. All the prominent men who brought about this revival loved and defended the ancients. In different ways did Gellert, Klopstock, and, above all, Lessing, who combined the most thorough knowledge of antiquity with the greatest mastership in the handling of the mother-tongue, work toward one and the same end. Nearly all these men had been scholars of gymnasia where Latin was studied to a great extent. The translations from the ancient classics, begun by J. H. Voss and continued by many others, brought the works of national authors into a more intimate connection with the ancient models. Thus classic antiquity and the German language, which hitherto had been somewhat despised, rose simultaneously to new honors. Also, men like J. G. Hamann, who were true lovers of the Gospel, loved and cultivated the study of the ancients. The German language was developed in the most felicitous manner, for the use of philosophy, by Chr. Wolf; for theology, by Mosheim; and for all the arts and sciences, by the Bremen Contributions, (*Bremer Beiträge*), a well-known literary and critical journal published in Bremen since 1744 by a number of prominent writers. The combined influence of all this on education in the gymnasia was very great, and extended far beyond instruction in the mother-tongue and ancient literature.

This influence was first noticeable in the study of the Greek language and literature. The constantly-increasing acquaintance with the ancient Greeks brought quite a new life into German literature. Hitherto but little Greek had been read besides the New Testament, Cebes, Palæphatus, Xenophon's *Memorabilia*, Theophrast, and Plutarch's *De Educatione Puerorum*, while Homer and other characteristic representatives of ancient life had been almost entirely neglected, or only studied in the most superficial manner. Even Melanchthon, in his *School-Regulations*, left Greek to private study, and only Neander and Rhodomann obtained a few hours' public instruction for it, which soon, however, were obligatory only for theologians.

Among the modern humanists, two schools may be distinguished, the strict one, and the more moderate one, both agreeing in the importance of the study of the ancient classics, but differing in this, that the latter condemned all one-sided study, and endeavored to draw a dividing line between mere dry learning and matters of general interest and general educational import.

Of the humanists who exercised an important influence on secondary education, we mention the following: C. Cellarius, belonging also to a former period, (1633-1707,) first schoolmaster, then professor at a university, and founder of the *Seminarium Doctrinæ Elegantioris* in Halle, a very fertile author of educational works and text-books. J. M. Gesner, (1691-1761,) rector of several gymnasia, among the rest, of the Thomas School, in Leipsic, (1730,) then professor of ancient literature, and founder of the *Philological Seminary* at Göttingen, (1734,) also founder of the moderate humanistic school, drew up the Brunswick school-regulations, (1738,) explained his pedagogic and didactic principles in his small German writings, (published 1756,) and defended

himself against the reproach that he despised the study of grammar, because he wished to simplify the method of studying it. He banished the theological text-books and readers from the schools, replaced them by the classics, and in his Greek reader for the first time let the German youth have a taste of the spirit of antiquity. His influence was powerful throughout the whole of Germany. J. A. Ernesti, (1707-1781,) who labored not only as teacher of secondary schools, but also as professor at the University of Leipsic, was one of the greatest philologists of his age, and an educator of the first rank, whose numerous famous scholars worked in the same spirit in the different parts of Germany. C. G. Heyne, (1729-1812,) in 1763 became professor of classical studies at Göttingen. Full of enthusiasm, especially for the æsthetic side of antiquity, he organized the Pædagogium at Ilfeld, (1770,) made it a nursery for the dissemination of his principles, and a model for many other schools. The activity of these men and many others showed itself in the prevalence of a certain eclecticism; they introduced their students to the beauties of the ancient classics, without wearying them too much with grammatical studies or with the writing of Greek exercises and Latin verses; on the whole, Greek authors were studied more than Latin ones.

It was to be regretted that the method indicated by Geßner and Ernesti was not always followed up as it should have been; one reason for this was that the universities, in many cases, did not offer a sufficient opportunity for acquiring the amount and kind of knowledge necessary for teachers of secondary schools; and another reason was that during the time of the French invasion much superficiality and frivolity spread through Germany, of course also affecting education. It is true that during this period men like Johann von Müller and von Leist were at the head of educational affairs in Western Germany, but even they were unable to stem the torrent; and when an attempt was made for reforming the system of education, it was but natural that, as in Hesse-Cassel, a school of artillery and engineering (1810) was thought of first.

Since the middle of the eighteenth century, the spirit of true science had successfully combated both theological scholasticism and the theory of mere practical usefulness; and Humanism,\* during the last part of the eighteenth century and the first half of the nineteenth, reached its greatest scientific development. The chief representatives of this period are Friedrich August Wolf and August Böckh, in Berlin and Gottfried Hermann, in Leipsic, and their most eminent scholars, Karl Reissig, in Halle, and Karl Ottfried Müller in Göttingen. By the side of these we must mention a number of men, some of whom are still active, and most of whom have made secondary education their specialty, such as G. Bernhardt, F. Creuzer, L. Dissen, L. Döderlein, K. F. Hermann, C. A. Lobeck, K. F. Nägelsbach, G. W. Nitzsch, F. Ritschl, G. F. Schömann, F. Thiersch, F. G. Welcker, and many others who, by word and writing, have untiringly worked for the cause of secondary education. The study of the ancients, through the endeavors of these men, entered its most

\* Humanism as used in this article means the culture produced by the study of ancient (classical) life, literature, and art.—ED.

flourishing and glorious period, and the ideal object of mental gymnastics, viz, a universal humane education, was aimed at. It cannot be denied that this ideal flight met with various hinderances, and in the character of the times the drawbacks of the system became evident. What had made Wolf's science of antiquity so great and significant was especially its close connection with the modern national literature of Germany, and their mutual influence; but Wolf did not entirely keep up this connection, but in the beginning of this century gradually relinquished it, and in a like measure did modern German literature sever its connection with the ancients. This is very clearly shown by the growing appreciation of the German language and literature in the gymnasia, in opposition to the study of ancient languages; the looser the connection between these two studies became, the more did a onesided Latinism grow up and produce a neglect of the German language and literature. The great masters of philological science, however, had fortunately strengthened the study of Greek antiquity so much, and brought out the very close relation of the German to the Greek mind so clearly and unmistakably, that the complete loss of these rich treasures was not to be feared.

The immortal master of this new development of Humanism was undoubtedly Friedrich August Wolf, mentioned above. He was born in 1759, at Hainrode, near Nordhausen, in the present Prussian province of Saxony; in 1777 entered the University of Göttingen; 1779 became teacher in the Gymnasium of Ilfeld; 1782, rector of the Gymnasium at Osterode; and in 1783 professor of philology in the University of Halle, and at the same time principal of the Pedagogical Institute in the same city. In 1807, he was called to Berlin, and became a member of the bureau of public instruction, under the ministry of the interior. He died in Marseilles in 1824, during a journey which he had undertaken for the sake of his health. During his stay in Halle he had, by his lectures and by a series of works, the most important of which are the *Homeric Prolegomena*, theoretically and practically prepared the way for a strictly methodical manner of study. He knew how to awaken the conscious self-activity of teachers; he created the science of archæology by his classical works on the subject, and introduced his numerous scholars into the then-almost-unknown world of Homer, the Greek tragic dramatists, and Plato. The other two great humanists, G. Hermann and A. Böckh, were active in developing the formal and matter-of-fact side of archæology. Gottfried Hermann (born in Leipzig in 1772; died 1848, as professor at the University of Leipsic) gained great influence by the Greek society founded by him in 1805, which was especially active in promoting a truly methodical treatment of the language in the gymnasium-course of instruction.

The undue importance conceded to classical studies as an educational element was corrected by August Böckh, (born in Karlsruhe, 1784; died, as professor, in Berlin, 1867,) who, as an eloquent teacher of archæology, and as a clearheaded searcher for truth, has gained immortal fame by his works on ancient public and social life. Through his teaching, the ancients began to be viewed in a more truthful light, though perhaps somewhat less enthusiastically. The great value of the study of classic antiquity for the mental and moral education

of youth was recognized, but that onesidedness by which the study of the ancients placed history and mathematics too much in the back-ground was abandoned, and the incompatibility of unlimited admiration of mere human ideals with the true spirit of Gospel truth and Gospel morality was clearly shown. Henceforth the study of the classics no longer formed the exclusive basis of secondary education, but a true Christian education, and the study of history, mathematics, and natural sciences, became educational elements of equal importance. To regulate the relations between these, and bring about a course of study truly harmonious in all respects, is the problem which the present generation has to solve.

#### THE INCREASE OF KNOWLEDGE AND THE DIVISION OF LABOR.

The character of the secondary schools was materially changed during the first half of the nineteenth century, not only by the more intense development of philology, but also by the constant extension and greater depth in the treatment of all sciences. In former times, the aim to be reached and the way to reach it had, in spite of all differences of methods, been simple and clear. The Bible and the ancient languages had been the essential conditions, without which no scientific study, least of all the study of theology, could be carried on, and from the secondary schools young men went to the universities to study the sciences. All the preparatory studies seemed only to be aids for reaching this aim. The more religious instruction during a time of dogmatic stagnation and complete isolation of theology from the other sciences lost their interest, and the more the study of the ancient languages had been attacked and limited, all the more could the other sciences raise their claim as being important educational elements. It seemed, in such circumstances, doubly important that, in the secondary schools, a suitable preparation should be given, especially for philosophical and natural sciences, as, without such preparation, the lectures at the university could scarcely be understood, or, at least, not be of sufficient benefit to the student. But the neglect of such preparatory studies was almost incredible. Philosophy, which formerly had been studied to an undue extent, was very much neglected, and natural history, physics, mathematics, history, and geography were taught in the most unsatisfactory manner, barely giving a cursory review of these sciences. But these were the very sciences which had gained in extent and depth, so much so that no man aiming at a higher education could do without a thorough knowledge of them, and certainly no one could get the full benefit of university-lectures on these sciences without having, in the secondary schools, been thoroughly prepared for them.

The question was, how these preparatory studies could be introduced in the gymnasium's course, how their relation to the classical studies could best be regulated, and what should be the limit of these studies so as not to infringe on the university- or polytechnic course. The solution of this difficult problem has not yet been fully reached, and all the recent movements and discussions on the field of secondary instruction have been more or less connected with it.

The greatest mistakes have been made in mathematics and history. In

the study of mathematics, the more difficult problems were to be reached; but the first and most essential aim of mathematical instruction, viz, to make the educating power of this science the common property of all students, was neglected. The results were, therefore, neither in due proportion to the excellence of the teachers, nor to the amount of time and labor spent; and even prominent teachers of mathematics returned to the idea that a peculiar talent was necessary for this study.

In history, the study of general history, with its vast extent and enormous amount of material, was considered essential, and the student was overwhelmed with an almost ungovernable mass of historical matter. Even at the present time, but few teachers of history will be found who, completely mastering their subject, can exercise self-denial and limit themselves in their selections so as to present to the youthful mind only that which is essential and will be of lasting benefit.

Finally, the preparatory philosophical studies (*philosophische Propädeutik*) were studied in the most varied and arbitrary manner, even after Trendelenburg had pointed out the right manner for this study. It must, however, be acknowledged that this study can be beneficial only if it is in the hands of a skillful and enthusiastic teacher.

To restore the proper harmony between the various branches of study seemed almost impossible. If in a gymnasium all the studies were properly represented by learned and energetic teachers, the overcrowding and overworking of the students could scarcely be avoided. The ancient languages, particularly Greek, were consequently again limited too much; other subjects of instruction, even religion, were completely crowded out in some gymnasia, and the students were overburdened with work to such a degree as to seriously injure their elasticity of mind. The loud complaints on this point, which were raised on all sides, though all more or less exaggerated, did not appear entirely unjustified. They certainly produced a strong impression on the authorities and on educators, and have led to a calm and conscientious discussion and revision of the whole matter.

The relations of modern public and social life, as well as human nature itself, demanded an outward palpable separation of the two so widely differing branches of education, the ancient and the modern, and this demand was intensified by the constant increase in the subjects of instruction. This was the cause of the large increase in the number of real-schools, which formerly had only existed sporadically since 1830. The conflict between the advocates of the real-school and those of the gymnasium has often waxed hot. While some German states, especially Prussia and the former kingdom of Hanover, allowed the establishment of numerous real-schools, other states discouraged them, and at any rate, offered no government-aid for their erection. In many cases, the establishment of parallel classes on the system of bifurcation, the lower classes being in common and the higher ones having a real-school-course and a gymnasium-course, seemed to solve the problem.

The conviction of many prominent educators that the strict separation of *the two branches* of education would be of baneful influence, has led to the

repeated and earnest endeavors for a union of the two in the so-called real-gymnasium. Though such institutions, combining the gymnasium and the real-school, have been started here and there, it cannot be said that these endeavors have, on the whole, been very successful, and the whole subject will remain a mooted question for some time to come.

#### THE REVIVAL OF NATIONAL LIFE IN GERMANY.

The vital power of the German nation was strong enough to oppose to foreign oppression a powerful mental development. This showed itself chiefly in all the higher institutions of learning, such as the universities and gymnasia; and, as an instance, we mention the foundation of the Berlin University in 1810, the period of Prussia's lowest degradation in a political sense. The influence of highly-educated statesmen, the appointment at the university of eminent teachers, such as F. A. Wolf, F. Schleiermacher, J. G. Fichte, and others, the newly-awakened life in the Protestant church, these and other causes combined in exercising a very beneficial influence on the gymnasia both as regards the method and the matter of instruction.

This influence chiefly showed itself in three directions: first, the history and literature of the German nation became the subject of thorough and enthusiastic study; second, there began to dawn in the German nation the consciousness of its historic mission, and of the place due to it among the other nations of the world; and, third, a greater interest in education generally was awakened by this revival of the national spirit.

The study of German history and literature proved a great gain in various respects. The treasures of ancient German history and literature, which had almost been forgotten, offered rich food for the mind, and, by comparison, brought new life to the kindred studies of antiquity. Now first could the ancient epic and other poetry be truly understood. Niebuhr, the *savant*, with his statesmanlike views and his intimate acquaintance with higher political life, paved the way for an understanding of the social and political life of antiquity, of which before him but few men had had any conception. The study of the history of the German language increased its knowledge and promoted the desire to have it still more perfected and polished.

This growing consciousness in the German nation of its historic mission has, more than anything else, tended to produce the right measure in the moral and religious appreciation of classic antiquity. Long after the revival of religious life in Germany, frequent and loud complaints were raised regarding the heathenish tendencies of many gymnasia. The people who made these complaints forgot that this was but the natural reaction of that period, when theology and religion had almost become fossilized. This led again to a desire to infuse new life into the religious instruction of the gymnasia; it also led people to remember the original foundation and reformatory character of the Protestant gymnasia of Germany, and produced endeavors to restore this character wherever it had been lost, and it finally led to the zealous study and representation of classic antiquity in its religious and moral aspect. Ackermann, in his work, *The Christianity of Plato*, was the pioneer in this direction, and Nägelsbach, in



his classic works, *Homeric Theology*, (Nuremberg, 1840,) and *Post-Homeric Theology*, (Nuremberg, 1857,) almost exhausted the subject.

#### IMPORTANT DATA OF MODERN DEVELOPMENT.

It is impossible, within the compass of a short article, to give a full description of the rich and many-sided development of the system of secondary education during the last fifty years, more particularly because, in many and important respects, this development is still going on. With true scientific zeal, and with considerable results, have men of science and educators labored for the advancement of secondary education, while the governments of all the German states, with the greatest conscientiousness and care, have tried to employ the best means for obtaining the best results.

Prussia set the example in this respect. The government had begun to care for the gymnasia as early as the reign of the Great Elector, Frederick William, (1640-'88.) Frederick the Great (1740-'86) greatly furthered their interests by his famous cabinet-order of September 5, 1779, in which he declared that he would never allow the study of Latin and Greek to be abandoned in the gymnasia. More than all his predecessors, did Frederick William III (1797-1840) do for the cause of secondary schools. The secondary-school-committee, (*Oberschul-Collegium*), the highest educational authority for the secondary schools, formed in 1787, existed till the year 1808, when it was transferred to the section of public instruction in the ministry of the interior, of which, and afterward of the ministry of public instruction, it has formed an integral and important part. With the period of the greatest political humiliation of Prussia, under the yoke of Napoleon, does the new and happy era of the Prussian gymnasia begin. Excellent measures for the improvement in their system were at that time introduced by the chief of the section for public instruction, guided by the advice and influence of men like Stein, Hardenberg, Wilhelm von Humboldt, Niebohm, Sövern, Niebuhr, and others. In 1810, the important regulations for the examinations of persons desiring to become teachers in secondary schools were published; in 1812, the regulations for the final examination, (*Maturitäts-Examen*;) in 1816, the revised course of instruction for gymnasia and real-schools; in 1834, the new and revised regulations for the final examinations, (*Maturitäts-Examen*;) in 1837, a normal course of instruction for the gymnasia, modified considerably in 1856.

In Saxony, the new regulations for secondary schools were published in 1847, and the new regulations for the examination of persons desirous of becoming teachers in secondary schools in 1848.

In Würtemberg, special committees were appointed to draw up a new course of instruction for the gymnasia, and introduced in 1848.

In Baden, new regulations for secondary schools were published in 1834, and a new course of instruction for the same in 1837.

In Bavaria, a new course of instruction for the secondary schools was published in 1829 and revised in 1830.

The work of reforming the system of secondary education is still going on in all the states of Germany, and, though a great deal has been done, the end has *not yet been reached*.

## PRESENT STATUS OF SECONDARY SCHOOLS IN GERMANY.

## INTRODUCTION.

As the secondary schools of Prussia are by far the most numerous in Germany, and form in many respects the model and standard for all these schools, at least in Northern Germany, a brief outline of their present status is given, as best calculated to give a correct idea of the nature of these schools, following in this representation the excellent work, *Verordnungen und Gesetze für die höheren Schulen in Preussen*, (Rules and Regulations for the Higher Schools in Prussia,) by Dr. L. Wiese, privy counselor in the royal ministry of public instruction at Berlin.

## THE DIFFERENT KINDS OF SECONDARY SCHOOLS.

The essential characteristic of the secondary schools is neither instruction in foreign languages nor final examinations nor special privileges. The secondary school differs from the elementary schools by a course of instruction going beyond the immediate demands of every-day life; from the special school, by the more general character of the courses of instruction; from the university, by its preparatory character. It has the special aim to give that sound basis of scientific and literary education which enables a man to participate in solving the higher problems of life in church, state, and society. In accordance with their historical development, two directions can be clearly traced, viz, the gymnasium and the real-school: the former comprising gymnasia and pro-gymnasia; and the latter real-schools of the first class, real-schools of the second class, and higher burgher-schools. The character of these schools will best be seen from their course of instruction, given below.

## ADMINISTRATION.

The highest authority for all secondary schools is the royal ministry for ecclesiastical, educational, and medical affairs. All these schools are subject to it, without regard to denomination.

Each province has its provincial school-authority, whose head is the president of the province. The duties of this provincial school-board (*Provinzial-schul-Collegium*) are, (1) to decide all questions referring to the educational aim of these schools; (2) to examine the statutes; (3) to examine new rules and regulations and revise existing ones, to regulate discipline, to make suitable proposals to the ministry for correcting abuses; (4) to examine the text-books and to decide which are to be used and which not; (5) to prepare new text-books and introduce them after having been sanctioned by the ministry; (6) to appoint examining committees for the final examinations and to examine the transactions of these committees; (7) to appoint, promote, and dismiss teachers. Every three years the provincial school-boards report to the ministry.

## NUMBER OF CLASSES IN THE DIFFERENT SCHOOLS.

A complete gymnasium has at least six classes, *sexta* the lowest, and *prima* the highest. The third and second classes are generally subdivided into two divisions, a higher and a lower one.

A complete pro-gymnasium has the five gymnasium-classes from six to two. Some pro-gymnasias only have the classes six to four or six to three.

A complete real-school has six classes. The higher burgher-schools have the five real-school-classes six to two.

With most of the secondary schools, preparatory elementary schools of one, two, or more classes are connected, where scholars can acquire the knowledge demanded on entering class six of some secondary school.

## CONDITIONS OF ADMISSION.

Scholars who wish to enter the sixth class of some secondary school must have completed their ninth year, be able to read German, know the parts of speech, write legibly, be able to write from dictation without making bad orthographical mistakes, be well versed in the four fundamental rules of arithmetic, and be thoroughly conversant with the history of the Old and New Testaments.

## SCHOLASTIC YEAR AND LENGTH OF COURSE.

The scholastic year in some provinces commences at Easter, and in others at Michaelmas, (September 29.) Scholars are, as a general rule, admitted and promoted only once a year.

A full gymnasium, or real-school course occupies nine years, viz, one year each in the sixth, fifth, and fourth classes, and two years each in the third, second, and first classes. The scholars of one class now always go together in all the studies, while formerly some might belong to one class in some study, and to another in another.

The largest number of scholars in one class is 50 in the lower classes, 40 in the middle classes, and 30 in the higher classes.

## COURSE OF INSTRUCTION IN A GYMNASIUM.

The course of instruction varies somewhat in the different gymnasia, but the following may be considered as the standard :

*Number of hours per week in each class.*

Studies.	Classes and number of hours per week in each class.					
	VI.	V.	IV.	III.	II.	I.
Religion .....	3	3	2	2	2	2
German .....	2	2	2	2	2	3
Latin .....	10	10	10	10	10	8
Greek .....			6	6	6	6
French .....		3	2	2	2	2
History and geography .....	2	3	3	3	3	3
Mathematics .....	4	3	3	3	4	4
Physics .....					1	2
Natural history .....	2	2		2		
Drawing .....	2	2	2			
Penmanship .....	3	3				
Total .....	28	30	30	30	30	30

Instruction in Hebrew, vocal music, and gymnastics is either totally or partially given out of school-hours.

The details of the gymnasium's course are the following :

#### I.—RELIGION.

*A. PROTESTANT.—Class VI*, (three hours per week :) Biblical histories of the Old Testament as far as Kings, following a compendium of biblical history. Before any of the great church-festivals, (Christmas, Easter, Pentecost,) the history of the respective festival is gone through. The first part of the catechism, with Luther's explanations, is learned by heart ; the second and third parts, without Luther's explanations, and avoiding the so-called catechising ; learning by heart from eight to ten hymns, chiefly relating to the church-festivals.

*Class V*, (three hours per week :) Biblical histories of the New Testament, following a compendium of biblical history ; general knowledge of the arrangement and succession of the different books of the Bible ; repetition of the first part of the catechism, with the explanations ; explanation and learning by heart of the second part of the catechism, with Luther's explanations, and suitable passages from Scripture ; repetition of the hymns learned in the sixth class, adding about six new ones. Special regard is had in all classes to the ecclesiastical year, mentioning the gospel and epistle for every Sunday in the year. About the time of the reformation-festival, (October 17,) the importance of the festival is impressed upon the minds of the pupils by a brief review of the history of the reformation.

*Class IV*, (two hours per week :) Important passages from the Old and New Testaments are read from the Bible itself ; from the Old Testament, especially those which show the history of the people of Israel ; also the more important passages from the Apocrypha ; in the New Testament, chiefly passages from Matthew, Luke, and the Acts of the Apostles ; further knowledge of the Bible ; geography of Palestine ; from the catechism, repetition of the first and second parts, with explanations and passages from Scripture ; explanation and learning by heart of the third part, with Luther's explanations and passages from Scripture ; learning by heart of the fourth and fifth parts. The hymns learned in the sixth and fifth classes are repeated, and about four new ones are added. The scholars are also occasionally made acquainted with the significance of the various religious rites of the church.

*Class III, a, and III, b*, (two hours per week :) Reading of portions of the Bible as in IV, with a special view of showing the internal connection of the whole Scriptures ; messianic and prophetic passages from the Old Testament ; Psalms, portions of the book of Job ; life of Jesus from the New Testament ; the sermon on the mount ; parables ; repetition and further extension of Bible-knowledge, giving briefly the lives of the authors and the time when they wrote ; repetition of the catechism and the passages of Scripture belonging to it ; repetition of the hymns learned by heart in the lower classes, adding new ones, as also some psalms ; brief history of the Christian church and of the reforma-

tion ; lives of some of the prominent authors of hymns ; life and activity of the apostles ; Paul's missionary journeys, quoting those passages from the Epistles which supplement the Acts of the Apostles.

*Class II, b*, (two hours per week :) Reading of portions of the Bible, chiefly with a view of showing the Kingdom of God in the Old and New Testament. In the Old Testament, the passages of typical significance are dwelt upon with regard to persons, events, and institutions. From the New Testament, there are read: Paul's Epistle to the Ephesians, the Philippians, the Epistle of James, the First Epistle of John, the First Epistle of Peter. Repetition of the catechism, showing its internal arrangement. Repetition of passages of Scripture, hymns, and psalms. Continuation of church-history.

*Class II, a*, (two hours per week :) Of the New Testament, there are read and explained: the Acts of the Apostles, First Epistle to Timothy, &c. In this class, the Greek Testament is used, with Luther's translation. Important passages, such as the Lord's Prayer, are learned by heart in Greek. The Sunday gospels and epistles are gone through in Greek. Repetition of Bible-knowledge, of passages from the Bible, Psalms, and hymns. Review of church-history, with special reference to the first four centuries ; more in detail, the history of the reformation, the time of Spener, Franke, and the foreign missions. The history of dogmas is confined to what is absolutely necessary. The religious wars, the history of the Popes, &c., are only mentioned ; a detailed account of them being left to instruction in history. A general history of religion does not belong to a gymnasium-course ; but, considering the constant occupation with Greek and Roman antiquities, it is necessary that in the higher classes the scholars should be made acquainted not only with the relation between Judaism and Christianity, but also with the relation of the other ancient religions, especially the Oriental, the Greek, and Roman, to Christianity.

*Class I*, (two hours per week :) The following books of the New Testament are read: the Gospel of St. John, the Epistle to the Romans, the Epistle to the Galatians, important passages from the First Epistle to the Corinthians, and the Epistle to the Hebrews ; principles of doctrine and morals, showing their intimate connection ; review of the books of creeds ; reading of the Augsburg Confession, special regard being paid to the apologetic portions. In explaining difficult passages from the New Testament, in illustrating biblical language and the fundamental principles of doctrine and morals, the Greek text is always referred to in the two upper classes. Repetition of Bible-knowledge, passages from Scripture, psalms, and hymns.

*General remarks.*—Wherever the Heidelberg Catechism is used in the churches, it is also used in the religious instruction in the gymnasium. A text-book is used for instruction in church-history ; also for doctrine and morals. Religious instruction is always given during the first school-hour in the morning, and is every time opened with prayer by the teacher. In singing-school, the most common church-tunes are practiced.

*B. CATHOLIC.*—*Class VI*, (three hours per week :) The Little Catechism ; of faith ; explanation of the Lord's Prayer and the Apostolic Confession of Faith ; biblical history of the Old Testament as far as the division of the Jewish king-

dom. The passages from the catechism, after having been explained, are learned by heart, especially the passages from Scripture given in the catechism.

*Class V*, (three hours per week:) The Little Catechism; of hope and charity; of prayer; the commandments of God and of the church; continuation of biblical history from the Old Testament; the life of Christ, according to the New Testament.

*Class IV*, (two hours per week:) Following the Large Catechism, the seven sacraments are explained, also the religious ceremonies and the ecclesiastical year with its festivals; explanation of Latin church-hymns; continuation of biblical history according to the New Testament; spread of the church, especially the journeys of the apostles.

*Class III, b, and III, a*, (two hours per week:) Following the Large Catechism, the doctrines of God the Creator, the Redeemer, and Sanctifier; the means of grace; the church-commandments; explanation of Latin church-hymns; review of the whole biblical history, Old and New Testaments.

*Class III, b*, (two hours per week:) The revelations of God; the books of the Old Testament; patriarchal and Mosaic revelations; the prophets; commencement of church-history; the lives of the saints.

*Class II, a*, (two hours per week:) Introduction to the books of the New Testament; the doctrine of the sacraments; continuation of church-history and of the lives of the saints.

*Class I*, (two hours per week:) Apologetic doctrine of faith and morals; continuation and repetition of church-history; readings from the Gospels, the Acts of the Apostles, and their epistles in Greek.

## II.—GERMAN.

*Class VI*, (two to three hours per week:) Reading, and repeating orally what has been read; learning by heart and reciting of poems, chiefly from German legend and history; grammar, (in connection with the reading;) the parts of speech, parts of a simple sentence; German grammar with reference to Latin grammar, using the Latin grammatical terms; prepositions; orthographical and short grammatical exercises in writing.

*Class V*, (two to three hours per week:) Reading, and oral, sometimes also written, repetition of the pieces which have been read; learning by heart and recitation of poems from the reader; grammar with reference to the pieces from the reader; simple sentences and the easy forms of the compound sentences, conjunctions, punctuation; orthographical and grammatical exercises in writing; exercises in the formation of sentences and in punctuation.

*Class IV*, (two to three hours per week:) Reading, with explanations of pieces of prose and poetry from the reader, with oral exercises in repeating the contents of the pieces read and reciting of poems; grammar, with reference to the pieces which have been read; dependent clauses; compound sentences; punctuation; synonyms and etymology, with reference to the pieces read; orthographical dictations, with special reference to words of foreign origin; short compositions, repeating narratives read or own experiences; descriptions, after short explana-

tions of the subjects to be described. The aim to be reached on this grade is fluent, distinct, and correct reading, correct speaking and writing.

*Class III, b*, (two hours per week:) Reading and explanation of pieces of prose and poetry from the reader, especially epic poetry; the laws of metrical composition; exercises in oral and written composition and in the reproduction of pieces that have been read; comprehensive review of grammar and syntax; the different declensions and conjugations; synonyms and etymology continued; reciting of poems; short speeches on subjects from Greek and Roman history; compositions on descriptive subjects, scenes of nature, or art; from time to time, translations from foreign languages, showing the difference between German syntax and that of other languages.

*Class III, a*, (two hours per week:) Reading and explanation of pieces of prose and poetry from the reader; introduction to making skeletons of speeches and essays; finding the skeleton of pieces read; exercises in making *extempore* speeches on well-known subjects or others on which information has been previously given. The rest like *III, b*. The subjects for the *extempore* speeches are to be taken particularly from German and Prussian history. The aim to be reached in this grade is clear and correct comprehension of what is read and heard, and a correct and clear way of expressing one's thoughts in speaking and writing.

*Class II, b*, (two hours per week:) The characteristics of the different kinds of poetry and the differences of metrical form are illustrated by examples from the reader or selections from classic German authors, with the necessary notes on the different periods of German literature; recitations and speeches on subjects taken from history, from Latin and Greek authors whose works have been read; the most important portions of rhetoric and making of skeleton-speeches. The characteristics of good style are illustrated by examples from the classical writers of Germany. Compositions with the outline prefixed; translations from foreign languages.

*Class II, a*, (two hours per week:) Introduction to the classical literature of the Middle Ages (Nibelungen, Gudrun) either by translations or the originals, with historico-grammatical explanations; Klopstock's odes; occasionally attempts in composing poetry, also in translating from foreign languages; the rest like *Class II, b*. The subjects for the compositions are to be selected only from fields in which the scholars are at home, either through instruction, reading, or personal observations.

*Class I*, (three hours per week:) History of German literature from Luther to the present time; reading of select portions from the most important authors, Luther, Herder, Lessing, Klopstock, Göthe; reading of Lessing's *Laokoon*; Schiller on *naïve* and sentimental poetry, &c.; the outlines of psychology and logic; composition and speeches.

### III.—LATIN.

*Class VI*, (nine to ten hours per week:) Grammar; declensions and conjugations, including deponent verbs; rules of gender, comparison, numerals, pronouns,

prepositions; oral and written translations; learning by heart of words and sentences.

*Class V*, (nine to ten hours per week :) Repetition of grammar; continuation of exercises in translation; rudiments of syntax, (accusative with the infinitive, ablative, absolute, &c. ;) learning by heart of words and sentences.

*Class IV*, (nine to ten hours per week :) Repetition of grammar; syntax-cases and further rules from the syntax; oral and written translations into Latin; authors read, Cornelius Nepos, portions of Livy, select fables of Phædrus; learning by heart of words, sentences, and fables.

*Class III, b*, (ten hours per week :) Repetition of cases; syntax of tenses and moods; read Cæsar's *De Bello Gallico*, books 1, 2, and 3; Ovid's *Metamorphoses*; oral and written translations into Latin; learning by heart of suitable pieces of prose and poetry. In this class the literary importance of every author whose works are read is clearly set forth.

*Class III, a*, (ten hours per week :) Repetition of grammar; written exercises (also *extempore*) to practice grammar, especially conditional clauses and the difference between direct and indirect speech; etymology and synonyms; read remainder of Cæsar's *De Bello Gallico*; Sallust's *Jugurtha*, or *Curtius*; Ovid's *Metamorphoses*; learning by heart as in *III, b*; metrical exercises.

*Class II, b*, (ten hours per week :) Continuation of written and oral exercises, with constant reference to the rules of grammar; read Livy or Sallust, Cicero's *Cato Major* and *Lælius*, Virgil's *Æneid*, two books. From *Class II* on, portions of grammar that seem to demand it are repeated; also etymology and synonyms; learning by heart and metrical exercises as in *III, a*. Instruction in speaking Latin is commenced in the middle classes, with short, simple sentences; but still more is this done from *class II* on.

*Class II, a*, (ten hours per week :) Grammar, &c., as in *II, b*; more regard is paid to the application of the rules of syntax, formation of sentences, &c.; written exercises, also short compositions in Latin on historical subjects; read Livy, Cicero's *Select Orations*, Virgil's *Æneid*, four books; also portions of Virgil's *Georgics* and *Eclogues*; and elegiac pieces from an anthology.

*Class I, b*, (eight hours per week :) Grammar, &c., as in *II, b*; *syntaxis ornata*; exercises; compositions; read Cicero's *Select Orations*, *De Officiis*, *Tusculan Disputations*, *Epistles*; Tacitus's *Germania*, *Agricola*; Horace's *Odes*, books 1 and 2; learning by heart of well-known odes from Horace; metrical exercises.

*Class I, a*, (eight hours per week :) Grammar, &c., as in *I, b*; read Cicero's *Orations*, (*Pro Sestio*, *Pro Murena*, *Pro Plancio*, *Pro Sulla*, *De Imp. Pompeii*, *In Pisonem*, *In Verrem*;) his *Brutus*, *Orator*, and *De Oratore*; Tacitus's *Annales*, portions of the *Historiæ*; Horace's *Odes*, books 3 and 4, *Satires*, and *Epistles*.

#### IV.—GREEK.

*Class IV*, (six hours per week :) Grammar, including the *verba pura, non contracta*, and *verba muta*, the rules of accentuation, oral and written translations from Greek into German; during the last months of the year, also, translations from German into Greek; learning by heart of words and sentences.



*Class III, b*, (six hours per week :) Repetition of all that has been studied in Class IV; the *verba liquida, contracta*, and verbs in  $\mu$ ; some of the most common irregular verbs and prepositions; translations and learning by heart as in IV.

*Class III, a*, (six hours per week :) Repetition of all that has been studied; irregular verbs; easy rules of syntax; translations into Greek; read Xenophon's *Anabasis*, book 1; Homer's *Odyssey*, book 1, verses 1-100, (all to be memorized :) the most important portions of Homeric grammar. From this class on, the position in literature of every author whose works are read is clearly set forth.

*Class I, b*, (six hours per week :) Repetition of grammar; syntax of the articles and the pronouns; infinitive and participial constructions; exercises in translation and learning by heart as in the preceding classes; read Xenophon's *Anabasis*, books 2 and 3; Homer's *Odyssey*, books 4-6; review of the Epic dialect.

*Class II, a*, (six hours per week :) Repetition of grammar; syntax of cases, tenses, and moods; translating and learning by heart as in the preceding classes; read Xenophon's *Cyropædia*, books 2 and 3, or select portions from his *Hellenica* or *Memorabilia*; Plutarch's *Select Biographies*, Arian; if possible, also, selections from Isocrates and Lysias; Herodotus: books 1 and 2, with translation into the Attic dialect; Homer's *Odyssey*, books 6-8.

*Class I, b*, (six hours per week :) Repetitions of grammar; syntax of particles and conjunctions; translating and learning by heart as in the preceding classes; read Plato's *Apology*, Criton, *Eutyphron*, and some other easy dialogues; Demosthenes's *Olynthian Orations* or *De Pace*; Homer's *Iliad*, books 6-8; a selection of lyric and elegiac poems.

*Class I, a*, (six hours per week :) Repetition of grammar; continuation of written exercises; read Demosthenes's *Philippic Orations*; Plato: *Phædon*, *Protagoras*, &c.; Selections from *Thucydides*; Homer's *Iliad*, books 8-12; Sophocles's *Antigone*, *Œdipus Rex*, *Ajax*, *Philoctetes*; also, some tragedies of Euripides.

#### V.—HEBREW, (OPTIONAL.)

*Class II*, (two hours per week :) Reading exercises; conjugations, including the *verba quiescentia*; declensions; learning of words; exercises in writing; translations from *Genesis*.

*Class I*, (two hours per week :) Repetition of grammar; the most important rules of syntax; exercises; occasionally *extempore* grammatical analyses; read selections from the historical books of the Old Testament, select *Psalms*, and selections from the *Prophets*.

#### VI.—FRENCH.

*Class V*, (three hours per week :) Rules of pronunciation; reading exercises; grammar, declensions, auxiliary verbs, the regular conjugations; oral and written translations during the first quarter only from French into German; then also from German into French; learning by heart of words; orthographical exercises.

*Class IV*, (two hours per week :) Repetition of grammar, and continuing the same to pronouns, numerals, comparisons, interrogative and negative sentences; oral and written exercises; occasionally some irregular verbs and easy rules of syntax; besides words, short sentences, verses, and fables are learned by heart; exercises in understanding French when spoken, and in translating it *extempore* into German; orthographical exercises.

*Class III, b*, (two hours per week :) Repetition of grammar, pronominal and impersonal verbs, syntax, of articles, cases and position of words, all accompanied by suitable exercises and translations; phraseology; learning by heart, as in *Class IV*.

*Class III, a*, (two hours per week :) Repetition of grammar, the tenses and moods, practiced by oral, written, and *extempore* exercises; read some anthology or historical works, like Voltaire's Charles XII, Rollin, &c.; learning by heart, &c., as in the preceding class.

*Class II, b*, (two hours per week :) Repetition of grammar, continued and extended practice in the most important syntactical rules, etymology, Gallicisms, synonyms; exercises in speaking; read some anthology or easy historical works, as in *III, a*; short notices on French literature; learning by heart, &c., as in *III*.

*Class II, a*, (two hours per week :) Grammatical and other oral and written exercises, as in *II, b*; read selections from prose and poetry, from anthologies or works like Montesquieu's *Considérations*; Michaud's *Histoire de la troisième croisade*; Ségur's *Histoire de Napoléon*; Thiers's *Bonaparte en Égypte*; Guizot's *Histoire de Charles I*.

*Class I*, (two hours per week :) Repetition of grammar, with exercises; short compositions; exercises in speaking; oral repetition in French of pieces that have been read; read selections from prose and poetry, from anthologies or from French classic authors; also select dramas of Racine, Corneille, and Molière.

#### VII.—GEOGRAPHY AND HISTORY.

*Class VI*, (two hours per week :) Brief review of the rudiments of physical and mathematical geography; a hydrographic and orographic sketch of the earth is given, with occasional references to myths, legends, and history; exercises on the globe and on the map.

The place of systematic instruction in history in classes *VI* and *V* is supplied by biblical history in the hours of religious instruction. The German reader and the written exercises in German instruction are also used for making the scholars acquainted with Greek and Roman legendary history, and with important facts and persons from German history. Important memorial-days of German history are invariably mentioned whenever they come round.

*Class V*, (two hours per week :) Repetition of the geographical lessons of *Class VI*; parts of the globe; special geography of Europe, with the exception of Germany, with the most important rivers, mountains, and cities; introduction to map-drawing; historical instruction, as in *VI*.

*Class IV*, (three hours per week :) In geography: repetition of the political and physical divisions of Europe, with special geography of Germany and Prussia; map-drawing. In history: the more important facts and persons of

Greek history till the death of Alexander the Great, giving a brief history of the other nations during the same period; history of Rome to the reign of Titus, giving a brief sketch of Roman history till the migration of nations; wall-maps to be used in this as in all the following classes; memorizing of the most important dates.

*Class III, b*, (three hours per week:) Geography: brief repetition of the lessons of class IV, giving a more detailed description of Germany, more particularly Prussia; brief review of the other states of Europe and other countries that stand in any relation to Europe. History: history of Germany from the migration of nations to the peace of Westphalia, giving the history of the non-German nations whenever they enter into German history; special history of Brandenburg-Prussia.

*Class III, a*, (three hours per week:) Geography: repetition and further extension of the lessons studied in class III, *b*; also repeating the lessons of former classes. History: history of Brandenburg-Prussia from 1648 to 1815, and brief review of the same till the present time; and, in connection with the history of Prussia, the history of Germany.

*Class II, b*, (three hours per week:) Ancient history, exclusive of Roman history, (legislation, monuments of science and art;) ancient geography. From this class on, continual repetitions of the preceding lessons, and memorizing of historical tables. Every two or three weeks one hour for geographical repetitions.

*Class II, a*, (three hours per week:) History of Rome till 476 after Christ, (legislation, monuments of science and art;) geography of the Roman Empire; every two or three weeks, geographical repetitions, as in II, *b*.

*Class I*, (three hours per week:) History of the Middle Ages and modern history; during the first year, from the migration of nations till the time of Charles V, (with special regard to the history of culture;) during the second year, from Charles V till 1815, and brief review of history till modern times; geographical and historical repetitions, as in the preceding classes.

#### VIII.—MATHEMATICS AND ARITHMETIC.

*Class VI*, (four hours per week:) The four fundamental rules are repeated and more firmly grounded by constant practice; measures, weights, and coins; measures of time; common fractions. More mental arithmetic than anything else.

*Class V*, (three hours per week:) Repetition of fractions; rule of three; mental arithmetic.

*Class IV*, (three hours per week:) Decimal fractions; proportions, &c., (this is the last class in which instruction in arithmetic proper is given, but in the following classes the scholars are obliged to do any sum occurring in the mathematical instruction readily;) elements of plane geometry as far as equality of triangles.

*Class III, b*, (three hours per week:) Plane geometry as far as circles; elements of algebra; arithmetical and geometrical proportions; roots.

*Class III, a*, (three hours per week:) In geometry: repetition of the lessons

of class III, *b*, and continuation. In arithmetic: scientific proofs of common arithmetic. In algebra: equations of the first degree with one unknown quantity.

*Class II, b*, (four hours per week:) Conclusion of plane geometry; repetition of the lessons in arithmetic from former classes; extraction of roots; equations of the first degree with several unknown quantities.

*Class II, a*, (four hours per week:) Plane trigonometry; quadratic equations; permutations and combinations; arithmetical and geometrical progression; logarithms.

*Class I*, (four hours per week:) Geometry of space; algebraic problems, especially algebra as applied to trigonometry; indeterminate equations; chain-rule; binomial theorem.

#### IX.—NATURAL SCIENCES.

*Class VI*, (two hours per week:) Natural history: description of various animals and plants, especially domestic ones; in summer, chiefly plants and insects, and in winter, vertebrated animals; exercises in terminology, and in practicing the usual organs for observation; description of the mode of living of different animals.

*Class V*, (two hours per week:) Continuation and extension of the lessons of class VI.

*Class IV*, (on account of the instruction in mathematics and French commencing in this class, no instruction in natural history is given.)

*Class III*, (two hours per week:) Development and determination of the different species; systematic review of the three natural kingdoms.

*Class II*, (one hour per week:) Elements of physics: solids; fluids; the air; sound; heat.

*Class I*, (two hours per week:) Light; magnetism; electricity; statics; mechanics; mathematical geography.

#### COURSE OF INSTRUCTION IN A REAL-SCHOOL.

Studies.	Classes and number of hours a week.					
	VI.	V.	IV.	III.	II.	I.
Religion .....	3	3	2	2	2	2
German .....	4	4	3	3	3	3
Latin .....	8	6	6	5	4	3
French .....		5	5	4	4	4
English .....				4	3	3
Geography and history .....	3	3	4	4	3	3
Natural sciences .....	2	2	2	2	6	6
Mathematics and arithmetic .....	5	4	6	6	5	5
Pennmanship .....	3	2	2			
Drawing .....	2	2	2	2	2	3
Total .....	30	31	32	32	32	32

Instruction in vocal music and gymnastics is either totally or partially given out of school-hours.

The details of the real-school-course are the following :

#### I.—RELIGION.

There is but little difference in this respect from the gymnasia; only, because a large number of scholars enter practical life from class III or class II, religious instruction is in these classes brought to a satisfactory conclusion. The Greek original of the New Testament is, of course, not used. Church-history may be confined to class I.

#### II.—GERMAN.

*Class VI, V, and IV* have the same course as these classes in the gymnasium.

*Class III, b, and III, a,* (three hours per week :) The course of instruction in these classes is also essentially the same as that of gymnasium-class III, but regard is taken to the fact that many scholars of the real-schools leave school from class III, *a*, in order to enter practical life. The themes for compositions are, therefore, mostly taken from subjects relating to practical life, business, &c. In reading poetry, only what is absolutely necessary regarding meters is given. Practical exercises are going on constantly, aiming at grammatical correctness in the use of the mother-tongue, clear conception of what has been read and heard, and readiness of correct oral and written composition.

*Class II, b, and II, a,* (three hours per week :) By select examples, the different kinds of poetry are illustrated, and the most important facts in the life and times of the authors are given. Selections from Homer in Voss's translation, and from the Lay of the Nibelungen in modern German translation, are read, lyric and didactic poems; dramatic scenes, (whole dramas being read privately;) declamations and speeches on subjects from history, the authors read in school or privately; logical exercises, synonyms, easy definitions, the original and derived meaning of words; making outlines of speeches and compositions; the characteristics of good style are illustrated by examples from classic German authors; writing of compositions and translations from foreign languages.

*Class I,* (three hours per week :) History of German literature; specimens of classic German poetry and prose; explanation of Klopstock's Odes, selections from Lessing's prose works, Herder's Ideas, &c.; oral reproduction of the pieces which have been read; exercises in definitions and writing outlines of speeches or compositions; rhetorical and logical disquisitions. Determination of the contents and extent of important ideas, such as science, art, literature, poetry, prose, organism, mechanism, &c., serving also as typical illustrations of methodical analysis; compositions and speeches.

#### III.—LATIN.

*Class VI,* (seven to eight hours per week :) Regular substantives and adjectives, rules of gender, the regular verbs; exercises in translation from Latin and into Latin, keeping within the limits of simple sentences, with subject, predicate, object, and easy application of the other cases; memorizing of vocables.

*Class V*, (six hours per week :) Irregular declensions of substantives and adjectives; rules of gender; irregular comparatives; declension of pronouns; prepositions; numerals; deponent verbs; irregular verbs; translations; accusative with the infinitive and ablative absolute; oral and written exercises; memorizing of vocables and sentences.

*Class IV*, (six hours per week :) Exercises in order to practice the accusative with the infinitive and the ablative absolute, as well as the portions of syntax agreeing in Latin and in German; exercises on the rules of the cases; repetition of etymology and of the rules of gender; irregular verbs; written exercises; reading of choice selections from Latin authors and learning by heart of words and sentences.

*Class III, b*, and *III, a*, (five hours per week :) Repetition and completion of the rules of the cases, the rules of the genitive and the ablative; conjunctions; participial constructions; the most important rules of the tenses and moods; repetition of etymology; written exercises; *extempore* written exercises; changing indirect speech into direct, and *vice versa*. Read Cornelius Nepos, in *III, a*; Cæsar's *De Bello Gallico*; memorizing of words and sentences.

*Class II, b*, and *II, a*, (four hours per week :) Repetition of etymology and syntax; oral and written sentences, as in *III*. Cæsar, continued; portions of Livy and Curtius; Sallust's *Catiline*; selections from Ovid's *Metamorphoses* or *Fasti*; mythology and prosody as far as required; memorizing of famous selections in prose and poetry; brief literary notices of the authors read.

*Class I*, (three hours per week :) Read selections from Livy, Sallust, orations of Cicero, easy philosophical writings of the same, Virgil's *Æneid*; prosody; mythology; and literary history.

The passages read are used for keeping the grammatical knowledge of the scholars constantly fresh; from time to time, translations from German into Latin.

#### IV.—FRENCH.

*Class V* and *Class IV*: The course is the same as in the gymnasium, with the only difference that the larger number of hours offers the chance for more practical exercises.

*Class III*: The same course as in class *III* of the gymnasium; the scholars being obliged to render into French pieces which have been read orally.

*Class II, b*, and *Class II, a*, (four hours per week :) Repetition of important portions of grammar. In *II a*, besides written and *extempore* exercises, also commencement of French compositions. In explaining the works of authors, the French language is used if possible, and hints are given for instructive private reading in French; exercises in French conversation.

*Class I*, (four hours per week :) The explanation of authors and the whole instruction are given exclusively in French; review of the classic period of French literature. Works like those of Madame de Staël, Boileau, &c., are read; also suitable dramas. Private reading guided by the teacher; grammatical repetitions; written exercises and compositions; translations from the works of German classics into French brief speeches in French.

## V.—ENGLISH.

*Class III, b, and Class III, a,* (four hours per week :) Rules of pronunciation and orthography, with frequent oral and written exercises ; in *III, b*, the whole grammar, including the most common irregular verbs ; in *III a*, the most important rules of syntax. A reader is used for exercises in reading and translating, in *III, a* ; also books like Walter Scott's *Tales of a Grandfather* ; memorizing of words and of suitable selections in prose and poetry. Written exercises in *III, b*, after the first three months ; in *III, a*, also occasional exercises in comprehending spoken English and immediate translating.

*Class II, b, and Class II, a,* (four hours per week :) Repetition of grammar, syntax ; various works are read, such as Goldsmith's *Vicar of Wakefield*, Washington Irving's *Sketch-book* or *Columbus*, &c. ; written exercises in *II, a*, easy compositions, phraseology, memorizing of words, and suitable selections in prose and poetry.

*Class I,* (four hours per week :) Works such as Macaulay's *History of England* and *Essays*, suitable dramas of Shakespeare, &c., are read ; brief review of the history of English literature ; private reading under the guidance of the teacher ; rendering orally into English passages of the works which have been read ; grammatical repetitions in connection with the readings ; written exercises, *extempore* exercises, compositions, and short speeches in English.

## VI.—GEOGRAPHY AND HISTORY.

*Class VI and Class V :* The same as in the gymnasium-course.

*Class IV,* (four hours per week :) Geography : repetition and extension of mathematical geography ; topography of non-European countries and states ; the products of the different countries ; history as in class IV of the gymnasium course.

*Class III, b, and Class III, a,* (four hours per week :) Geography : Europe, one year Germany and the other year the non-German countries, special regard being paid to ways of communication, soil, and products ; map-drawing. History : During the first year, history of Germany till 1648, with special regard to the history of Prussia, (Brandenburg ;) during the second year, history of Prussia (Brandenburg) in connection with German history.

*Class II, b, and Class II, a,* (three hours per week :) A more extensive course of mathematical geography ; repetition of hydrography and orography ; besides this, during the first year the non-European countries, with special regard to colonization and trade ; during the second year, Europe, especially Germany, with regard to culture, commerce, and manufactures ; distribution of plants and animals over the surface of the earth. History : in *II, b*, ancient history is repeated and completed by paying more regard to legislation, religion, and social life ; in *II, a*, the Middle Ages of Germany, with contemporaneous history of France and England ; memorizing historical tables.

*Class I,* (three hours per week :) Geography : repetitions ; history of geography and commerce. History : modern history since the reformation, especially *German, English, and French* history ; regular repetitions of former lessons.

VII.—NATURAL SCIENCES.

*Class VI*, (two hours per week :) Natural history : object-lessons on well-known objects of the three natural kingdoms ; during summer, exercises in describing different portions of plants, particularly leaves ; the most important indigenous trees ; in winter, description of common birds and quadrupeds and their mode of living.

*Class V*, (two hours per week :) Natural history : during summer, exercises in determining plants, botanical terminology, the most important garden-plants ; and during winter, birds and quadrupeds continued.

*Class IV*, (two hours per week :) Natural history : during summer, description of indigenous plants, the most important agricultural plants, hints for making herbaria, excursions ; and during winter, mammalia, amphibious animals and fishes, insects and their different species.

*Class III, b, and Class III, a*, (two hours per week :) Natural history : the Linnæan system ; natural families corresponding with the divisions of the Linnæan system, with special regard to plants used in medicine and poisonous plants ; during winter, vertebrated animals and insects ; in *III, a*, a brief review of mineralogy is given, with special regard to the minerals found in the neighborhood.

*Class II, b, and Class II, a* : Natural history, (two hours per week :) during summer, exercises in determining, without the help of the teacher, the most important families of plants, following some suitable botanical work giving the local flora ; natural system of plants with regard to their geographical distribution ; anatomy and physiology of plants ; during the winter of one year, systematic review of invertebrates ; during the winter of the second year, internal organization of vertebrated animals ; anatomy and physiology of the human body ; geographical distribution of plants and animals ; antediluvian flora and fauna. Physics and chemistry, (four hours per week :) during one year, magnetism, electricity, and heat ; and during the other year, sound, light, and the laws of mechanics ; in chemistry, the metalloids and their most important combinations ; the most important metals and their combinations ; with experiments.

*Class I* : Natural history, (two hours per week :) crystallography and mineralogy, with constant regard to the knowledge acquired by the scholars in stereometry and chemistry, geognosy and geology ; brief systematic review of the three natural kingdoms. Physics and chemistry, (four hours per week :) physics ; mathematical geography ; popular astronomy ; mechanics ; simple machinery ; optics ; heat ; electricity, &c. ; chemistry : the most important processes of inorganic chemistry ; also select portions of organic chemistry ; exercises in the chemical laboratory.

VIII.—ARITHMETIC AND MATHEMATICS.

*Class VI and Class V* : The same as in the gymnasium-classes.

*Class IV*, (six hours per week :) Arithmetic : repetition of the lessons of the two lower classes, with exercises especially in mental arithmetic ; proportions ;



decimal fractions. Geometry: commencement of systematic instruction; definitions; angles; parallel lines; triangles; Pythagorean problem.

*Class III, b, and Class III, a,* (six hours per week :) Arithmetic: repetitions; mercantile calculations; square and cube roots; proportions; equations of the first degree with one unknown quantity. Geometry: repetition of the lessons of class IV; squares, circles, &c.

*Class II, b, and Class II, a,* (five hours per week :) Arithmetic and algebra: equations of the first degree with several unknown quantities; roots; equations of the second degree; logarithms; exercises in mercantile calculations. Geometry: circles; stereometry and plane trigonometry; commencement of algebraic geometry.

*Class I,* (five hours per week :) Arithmetic and algebra: during the first year, equations of the second degree with several unknown quantities; equations of the third and fourth degree; numerical solution of equations of the higher degrees; progression; binomial theorem; during the second year, chain-rule; Diophantine equations; permutations; combinations; rule of probabilities. Geometry: during the first year, after practicing plane trigonometry, analytical geometry; conic sections; during the second year, descriptive geometry and elements of spherical trigonometry; also systematic repetition of the lessons of former classes.

#### OTHER COURSES OF INSTRUCTION.

The two courses of instruction (of a gymnasium and a real-school) given above are by no means closely followed out in every institution. Their essential features are preserved, but various deviations from them are made to suit local circumstances. The gymnasium-course of instruction is more closely adhered to than the real-school course, the one given above being a complete course as followed in a real-school of the first order.

The real-schools of the second order generally have the following course :

Studies.	Classes and number of hours per week.					
	VI.	V.	IV.	III.	II.	I.
Religion .....	3	3	2	2	2	2
German .....	4	4	4	4	3	3
French .....	8	6	6	5	4	4
English .....			4	4	3	3
Geography and history .....	3	3	4	4	4	3
Arithmetic and mathematics .....	6	6	6	6	6	6
Natural sciences .....		3	2	5	6	7
Penmanship .....	4	3	2			
Drawing .....	2	2	2	2	4	4
Total .....	30	30	32	32	32	32

The higher burgher-school has the following course of instruction :

Studies.	Classes and number of hours per week.				
	V.	IV.	III.	II.	I.
Religion.....	3	3	2	2	2
German .....	5	4	3	3	3
Latin .....	8	7	6	5	4
French .....		4	4	4	4
English.....				3	4
Geography and history .....	3	3	4	3	3
Natural sciences.....	2	2	2	2	4
Arithmetic and mathematics .....	5	4	6	6	6
Penmanship .....	2	2	2		
Drawing.....	2	2	2	2	2
Total.....	30	31	31	30	32

#### COMBINED INSTITUTIONS.

In some cases the real-schools are combined with a gymnasium, the so-called plan of bifurcation being followed in their course of instruction. This class of schools is of comparatively modern origin, but finds great favor in many parts of Germany, and the number of such schools is constantly increasing.

The two lower classes are mostly in common, and in the fourth class the two studies branch off into two directions. The general course of instruction in such combined institutions is, therefore, the following :

Studies in common.	Classes and number of hours per week.	
	VI.	V.
Religion .....	3	3
German.....	2	2
Latin .....	10	10
French .....		3
Geography and history.....	2	2
Arithmetic .....	4	3
Natural history.....	2	2
Penmanship.....	3	3
Drawing .....	2	2

Separate courses.	Classes and number of hours per week.			
	IV.	III.	II.	I.
<b>GYMNASIUM-COURSE.</b>				
Religion .....	2	2	2	2
German .....	2	2	2	3
Latin .....	10	10	10	8
Greek .....	6	6	6	6
French .....	2	2	2	2
Geography and history .....	3	3	3	3
Arithmetic and mathematics .....	3	3	4	4
Natural sciences .....		2	1	2
Drawing .....	2			
<b>REAL-SCHOOL-COURSE.</b>				
Religion .....	2	2	2	2
German .....	3	3	3	3
Latin .....	6	5	4	3
English .....		4	3	3
French .....	5	4	4	4
Geography and history .....	4	4	3	3
Arithmetic and mathematics .....	6	6	5	5
Natural sciences .....	2	2	6	6
Drawing .....	2	2	2	2
Penmanship .....	2			

## EXAMINATIONS.

In nearly all secondary schools, oral examinations are held at the end of every year by the rector in every class to determine whether the scholars are fully qualified to enter the next highest class. These examinations are held in the presence of the respective teachers, and embrace the subjects taught in each class. Scholars who do not pass such examinations have to remain another year in the same class, and if, at the end of the second year, they again, in spite of all the exertions made, fail to pass the examination, they are dismissed from the school, after the parents or guardians have been duly notified. This will in most cases not be surprising to them, as they are, by either quarterly or half-yearly reports, made acquainted with the exact standing of the boy in his class.

At the end of the whole course, a rigorous final examination is held, (*Abiturientenprüfung*, or *Maturitätsprüfung*.) This examination is held by an examining committee composed of the rector of the gymnasium, the teachers of the upper (generally three) classes, a member of the board of trustees wherever such a body exists, and a delegate from the provincial school-board. Students are by no means obliged to undergo this examination, but if they wish to pursue higher studies at a university or polytechnic school, they must produce a certificate of having passed it. Students wishing to undergo this examination must notify the rector two or three months before the end of the course, and the teachers in conference with the rector then decide whether a student is in every respect qualified to undergo the examination. In case students apply

to be examined whom the teachers consider unfit, they are to be earnestly solicited to desist from their intention and rather study for another year. The examination is oral and written, is very thorough, and embraces all the subjects taught during the whole course. After having passed this final examination successfully, the student receives a certificate to such effect, without which it would be impossible for him to enter the university or any other higher institution of learning.

#### BOARDING.

With but very few of the secondary schools, boarding-houses for the students are connected, and they, therefore, board here and there in the city. Every student, on entering a secondary school, must be placed by his parents and guardians under the supervision of some responsible resident of the city, known to the rector, who has to watch strictly and conscientiously over his private studies and his conduct out of school-hours. On entering the school, students must give the rector the number of their residence, and must notify him whenever they change it. Students are on no account allowed to live at a hotel or inn of any kind.

#### RELIGIOUS EXERCISES.

In most secondary schools, the students are obliged to attend church regularly, accompanied by their teachers; Protestant students attending preaching every Sunday, and Catholic students, besides this, going to mass every day before school commences.

In most Protestant schools, morning-prayers common for the whole school are held by the rector or one of the teachers, generally consisting of the singing of a hymn at the beginning and the end, the reading of a passage of Scripture, and a short prayer. In many schools, a short religious service is held by the rector, on Saturday, before the duties of the week close. There are no general binding regulations with regard to these religious exercises, but it is left to local option.

#### DISCIPLINE.

Punctual attendance at school is required, only sickness being a cause for staying away, and even then the teacher has to be notified immediately. Students are obliged to be cleanly and gentlemanly in their habits in and out of school, and to show due respect to their teachers and superiors. They are not allowed to visit restaurants, theaters, or any other public places of amusement, unless accompanied by their parents or guardians, or those responsible persons under whose care they are placed during their stay at the school. They are likewise forbidden to get books from any circulating library, as the students library supplies all their wants in this respect.

#### PUNISHMENTS.

Corporal punishments are, as a general rule, not permitted; only in the three lower classes they may be applied in extreme cases, and the rector must in every case be informed of it on the same day. The first degree of punish-

ment consists in a reprimand, gentle or severe, according to circumstances either private or public. The second degree is "being kept in" after school-hours, always under the supervision of the teacher. The third degree is imprisonment in the *Carcer*, (the school-lock-up,) not to exceed six hours at a time, and never to be spent in idleness, but always employed with some written exercises. This punishment can only be inflicted after the case has been discussed in the teachers' conference. The fourth degree is the so-called *consilium abeundi*, (*i. e.*, a notification before the assembled teachers' conference that the student has to leave the school.) In milder cases, the parent or guardian is notified to remove his son or ward from the school within a certain time, and, if he does not comply, the scholar is expelled. The fifth and last degree is the public expulsion (*Relegation*) in the presence of the whole school.

#### VACATIONS.

The regulations with regard to vacations of course vary greatly in the different states, but as a general rule the total sum of the vacations is not to exceed ten and a half weeks per annum, mostly distributed in the following manner: two weeks at Easter; five days at Whitsuntide; four weeks in midsummer; ten days at Michaelmas; and two weeks at Christmas. In many schools, it is customary to set a certain amount of vacation-lessons, concerning which the students are examined on their return to school.

#### EXPENSES.

The expenses of a student in one of the secondary schools are, first, the cost of board and clothing, these of course varying according to location and style of living; secondly, the cost of text-books, which, of course, also varies in the different states of Germany, the text-books to be used being prescribed by the ministry of public instruction; and, lastly, school-fees, varying in Prussia from 39 Prussian thaler (about \$27.11) to 6 Prussian thaler, (about \$4.17) per annum. These fees, which are exclusively for tuition, also vary in the different classes, being usually greater in the higher classes. Every student is, besides this, obliged to pay a certain small amount annually toward the library-fund, the physical apparatus, &c.

#### SCHOOL-PROGRAMMES.

A peculiar feature of German educational literature are the school-programmes, published annually by the gymnasia and the real-schools. It is an ancient and time-honored custom that every year the rector or one of the teachers writes a scientific essay on a subject chosen by himself. Many of these essays possess the highest literary merit, and have frequently been the *debut* of prominent authors before the public. Many authors publish a collection of their essays in book-form. Some of them are of considerable length, and embrace the most varied subjects, as the following table for the year 1872 will show:

Subjects.	No. of essays.	Subjects.	No. of essays.
Philology .....	252	Bibliography .....	7
Education .....	194	Geography .....	5
History .....	90	Commerce and industry .....	5
Natural sciences .....	75	Art and history of art .....	2
Mathematics .....	40	Total .....	701
Theology .....	21		
Philosophy .....	10		

#### TEACHERS, THEIR QUALIFICATIONS, DUTIES, SALARIES, AND PENSIONS.

At the head of every secondary school there is a director, usually called rector. He is appointed from among the number of teachers by the ministry of public instruction, usually for life or till called to some other place. He has the general supervision of the whole school, and presides at the teachers' conferences, but in most cases takes some of the classes himself in order to make himself personally acquainted with the students.

Persons who wish to become teachers in secondary schools must, as a general rule, have gone through a complete university-course, and, if possible, have attended one of the pedagogical seminaries connected with most universities. To secure a teacher's place in a secondary school, they must pass a rigorous examination before a committee of competent persons specially appointed for this purpose. Their names are then kept on a list, and they receive appointments, whenever a vacancy occurs, in the order in which they have passed the examination. In every secondary school there are so-called technical teachers, *i. e.*, teachers of singing, drawing, gymnastics, in some cases, also, French and English, who have not to undergo the above-mentioned examination, but merely to prove that they are qualified to teach their respective subjects. For the elementary classes frequently connected with secondary schools there are elementary teachers, who must possess the qualifications usually required from such.

The maximum number of hours per week for each teacher is generally the following: the rector, 16; teachers, 24 to 22; technical and elementary teachers, 28.

It is desired that in every study the teacher avoid a mere dry, mechanical method, the mere hearing of recitations; and that, without neglecting this, as well as without constantly referring to his text-book, he give to his lessons the character of lectures, so as to infuse a certain degree of enthusiasm into his hearers.

The salaries of teachers vary greatly, but it is safe to say that they seldom exceed for the director 3,000 Prussian thaler (\$2,085) per annum, and for the teacher between 1,000 and 2,000 thaler, while the lowest salary is about 400 or 500 thaler.

Men who devote themselves to the service of the secondary schools in Germany usually remain in that service during life, or as long as their state of health permits; and that they may give themselves exclusively to their impor-

tant duties without anxiety respecting age or sickness, pension-funds have been established in most states of Germany. The pension-regulations vary in the different states; but as a sample we give those of Prussia: after a service of 15 to 20 years, the pension is four-sixteenths of the salary; after 20 to 25 years, six-sixteenths; after 25 to 30 years, seven-sixteenths; after 30 to 35 years, eight-sixteenths; after 35 to 40 years, nine-sixteenths; after 40 to 45 years, ten-sixteenths; after 45 to 50 years, eleven-sixteenths; and from 50 years on, twelve-sixteenths.

#### APPENDIX I.—SECONDARY SCHOOLS FOR FEMALES.

The secondary schools for females, usually called "Höhere Töchter-Schulen," (higher schools for daughters,) vary much in their origin, their manner of supporting themselves, and their course of instruction. Most of them are private institutions, and some are managed by corporations or societies. It seems absolutely impossible to obtain any reliable statistics for the whole of Germany. According to Mushacke there are (1872) in the kingdom of Prussia 260 secondary schools for girls, some of them boarding-schools; but it is supposed that this figure is too low. The character of these schools is, besides, so varied that it is exceedingly difficult to determine which to count in and which not. Connected with some of these schools, there are normal schools for female teachers.

In order to give some idea of the course of instruction in these schools, we give the one of the Royal Augusta School, at Berlin, (530 scholars and 16 teachers—11 males and 5 females—in 1872,) and of the municipal Louisa School in the same city, (500 scholars and 16 teachers—12 males and 4 females—in 1872.) It will be seen from these statistics that the majority of the teachers in these schools are gentlemen. The same is the case in all the secondary schools, as also in the primary, throughout the whole of Germany.

The course of instruction in the Royal Augusta School for young ladies in Berlin is the following :

Studies.	Classes and number of hours per week.							
	VIII.	VII.	VI.	V.	IV.	III.	II.	I.
Religion .....	3	3	3	4	2	2	2	2
German .....	12	9	7	6	6	6	6	6
French .....		2	3	4	6	6	6	6
English .....							2	2
Arithmetic .....	4	4	4	4	2	2	2	2
Geography .....				2	2	2	2	2
History .....					2	2	2	2
Natural sciences .....						2	2	2
Penmanship .....	3	4	2	2	2			
Drawing .....				2	2	2	2	2
Vocal music .....			2	2	2	2	2	2
Needle-work .....	4	4	4	4	4	4	4	4
Total .....	26	26	25	30	30	30	32	32

The course in the municipal Louise School for young ladies in Berlin is the following :

Studies.	Classes and number of hours per week.													
	VII, <i>b</i> .	VII, <i>a</i> .	VI, <i>b</i> .	VI, <i>a</i> .	V, <i>b</i> .	V, <i>a</i> .	IV, <i>b</i> .	IV, <i>a</i> .	III, <i>b</i> .	III, <i>a</i> .	II, <i>b</i> .	II, <i>a</i> .	I, <i>b</i> .	I, <i>a</i> .
Religion.....	3	3	2	2	2	2	2	2	2	2	2	2	2	2
Object-lessons..	2	2	2	2										
Reading.....	9	9	4	4	3	3	2	2	2	2				
German lang'ge			3	3	3	3	3	3	3	3	4	4	2	2
German litera- ture .....													1	2
French.....			4	4	4	4	4	4	5	5	6	6	5	4
Italian.....													2	2
English.....									2	2	3	3	2	2
Arithmetic.....	4	4	3	3	3	3	2	2	2	2	2	2	2	2
Geography.....					2	2	2	2	2	2	2	2	2	2
History.....							2	2	2	2	3	3	2	2
Natural history.							1	1	2	2	2	2	2	2
Physics.....													2	2
Penmanship....	4	4	4	4	3	3	2	2	2	2				
Drawing.....					2	2	2	2	2	2	2	2	2	2
Vocal music....							2	2	2	2	2	2	2	2
Needle-work...	4	4	4	4	4	4	4	4	2	2	2	2	2	2
Total.....	26	26	26	26	26	26	28	28	30	30	30	30	30	26

## APPENDIX II.—CONFERENCE OF EDUCATORS TO DISCUSS THE QUESTION OF SECONDARY INSTRUCTION.\*

In October, 1873, a conference was held in Berlin, presided over by Dr. Falk, the Prussian minister of public instruction, in which twenty-five prominent Prussian educators, mostly directors of gymnasia and real-schools, participated. The object of this conference was merely to discuss questions of secondary instruction, and to gain a basis for future action. No resolutions whatever were passed, and no vote was taken on any question. It was merely an expression of individual opinions on the question of secondary education. The questions discussed were the following:

(1) In consequence of the gradual development of secondary instruction in Prussia, the following grades of secondary schools are in existence: gymnasia; pro-gymnasia; real-schools of a higher and a lower grade; and higher burgher-schools, with and without instruction in Latin.

A large number of these institutions have an elementary class, preparing pupils for the secondary school.

(a) Are any of the above-mentioned grades of schools superfluous, or does it seem advisable to retain them all, provided some change be made in the name and course of instruction of some of these schools?

(b) Is there any necessity for maintaining the position of the real-schools between the gymnasia and the technical institutions?

\* From the protocol (minutes) of a conference held, on various questions respecting higher (secondary) instruction, at the Prussian ministry of instruction, October, 1873.



Or does the national interest in greater unity of education require the abolition of the present system of dividing secondary instruction into two separate branches—the classic and the realistic—and a complete unification?

(c) Would it be necessary, in order to create a general, popular, and elementary school-system, to abolish the elementary schools connected with the gymnasia and real-schools, and to prohibit the establishment of such schools in the future?

(d) Is it desirable to continue the so-called system of bifurcation?

There were sixteen other points of discussion; but this first one, being the most important, is given at greater length.

Dr. Wiese, privy counselor in the Prussian ministry of public instruction, who is specially charged with the care of secondary instruction, opened the discussion by a lengthy speech. He said that it would be necessary to define the position of the secondary schools, not only with regard to their relation to each other, but also their relation to the higher and to the lower schools. The different grades of secondary schools had been developed in course of time by following the demands of the age. Thus a system had originated which had proved extremely useful in many respects, but which could by no means be considered as finished. The complaint of the university-teachers that the scientific spirit among the students was decreasing is perfectly just. The secondary schools paid too little attention to the training of the thinking and reasoning faculties of the pupils, and merely crammed their memory with a mass of encyclopedic knowledge, so that most of them lost their mental elasticity, and were satisfied with so passing the required examinations as to obtain some position in life.

As causes of this must be assigned partly the system of instruction, partly the want of pedagogical tact among the teachers. It seemed as if the fact that teaching was an art which had to be studied was being more and more lost sight of. A principal cause must also be found in the atmosphere of our age; the desire for earning money quite ignoring the cultivation of science for its own sake. Dr. Wiese considered it best to commence the discussions with 1, b, which actually contained the question whether real-schools were to exist in the future or not. In order to clear the ground, he gave a historical review of their origin. At present there are three opinions concerning these schools; some think they are good now, but that there is still room for improvement, and the object to be attained is to place them on the same level as the gymnasia; others consider the present state of the real-schools as unsatisfactory, and desire to have them brought back to their first and original object, viz, to educate young men for practical modern life. A third party think the real-schools are utterly useless: that their establishment has been a mistake, which should be at once corrected by abolishing them. They think that by establishing real-schools a pernicious dualism has been introduced in our system of secondary instruction. The whole question has, however, a practical side. There are in Prussia a large number of real-schools and kindred institutions, (higher burgher-schools, &c.,) many founded and supported at the expense of the cities. These would certainly not be willing to

have them abolished. The consequence would be, not that more pupils would enter the gymnasia, but that many students would enter the technical schools before their time and insufficiently prepared. Facts could never be argued away by theories, and it was, therefore, his opinion that the question 1, b, viz, "Is there any necessity for maintaining the position of the real-schools between the gymnasia and the technical institutions?" should be answered in the affirmative.

Many other members of the conference said that the state had exercised an undue pressure on the development of the real-schools: that in all the regulations published by the ministry of public instruction the gymnasia had been decidedly more favored than the real-schools. From a political standpoint it was also desirable to introduce reforms, as the South-German states did not look favorably on the Prussian real-school regulations. Comparisons between real-schools and gymnasia were frequently started from false premises, quite forgetting that the real-school was by no means a finished institution, but was still in a period of development.

All the members were unanimous that neither gymnasia nor real-schools should be considered as special schools, but that the object of both was the advancement of general education. It was considered desirable that this general education should rest on a common basis, but opinions differed as to the best mode of doing this. One member considered Latin as the common basis; another thought German was far more important and better calculated to make the schools truly national. The discussion chiefly turned on the question of instruction in Latin in the real-schools. Dr. Wiese was in favor of making this instruction optional; others opposed this. The majority of the meeting seemed in favor of the gymnasium and the real-school pursuing each its own way, without interfering with the other. On the question of bifurcation,\* opinions were divided, some opposing it and others favoring it. The general opinion seemed to be that for the present none of the existing grades of secondary schools could be considered superfluous.

The other questions discussed were the following; (as the discussion elicited very few points of interest, they are given without much comment:)

(2) In case all these grades of secondary schools continue to exist, what changes in the course of instruction of the real-schools and similar institutions would seem desirable?

The only speaker was Dr. Wiese. He thought that the existing course of instruction had, as a general rule, been satisfactory to all concerned; that exceptions in individual cases had very frequently been permitted; and that the truly wise policy would be to be still more liberal in this respect in the future. One important condition of success was that the limits set for each subject should not be exceeded, as had been done in some cases.

(3) Should the existing regulations regarding the admission of real-school-graduates to the universities be changed?

Dr. Wiese, the only speaker, was of the opinion that real-school-graduates should be admitted to the universities, but only to those official examinations

---

\* See pages 57 and 58 of this circular.

(*Staats-Examina*—examinations giving certificates for positions) which were required for obtaining the position of teachers of mathematics, natural sciences, and modern languages.

(4) What changes in the gymnasium-course of instruction seem desirable?

Dr. Bonitz, of Berlin, who spoke on this subject, proposed but few changes, viz, to introduce three hours French in the fifth class and two hours French in the second class.

In later sessions of the conference, questions 2, 3, 4, were further discussed, a great diversity of opinion existing on most points. Dr. Wiese's idea of giving greater individual liberty in arranging the course of instruction in the real-schools found universal favor.

As regards No. 4, the majority of the speakers were in favor of not raising the demands too high, as far as Greek was concerned; some opposing this, however.

(5) Religious instructions: (a) Shall the existing regulations undergo any change? (b) If the present regulations are continued, how far shall the scholars of other denominations be taken into consideration?

Most of the speakers were of the opinion that, although in many cases religious instruction was not imparted in the most practical manner, there was no reason for abolishing it; on the contrary, it should remain an essential part of the course of instruction. By a recent regulation, (February 29, 1872,) scholars might be dispensed from religious instruction at school, if it was shown that they otherwise received such instruction; this privilege, however, had been made use of but in very few instances, [an indication that other systematic religious instruction was comparatively rare.]

As regards 5, b, the general opinion was that, unless there were fifteen scholars of other denominations, no special religious instructions should be given.

(6) If sufficient provision is made in secondary schools for religious instruction, is it necessary to make or retain arrangements by which they get a special denominational or ecclesiastical character?

The opinion seemed to prevail generally that whenever, by the deed of foundation, some special denominational character had been fixed on any institution, this should be maintained, but otherwise not.

(7) The secondary schools have recently been blamed that they were remiss in fostering a patriotic German spirit. Can anything be done to remedy this?

Most of the speakers thought that instruction in German history should take the place of instruction in Prussian history. The national festivals should not be increased, as there was a superfluity of festival-days, (especially church-festivals.) Nothing in this whole matter should be done in the way of orders, but merely of recommendations, such as decorating the school-rooms with national portraits and scenes from German history.

(8) Is it desirable to introduce stenography as a compulsory subject in the course of instruction?

All the members of the conference answered this question in the negative, maintaining that this instruction should be entirely optional.

(9) Should there be any legislation regarding size of schools, number of classes, and number of scholars in each class ?

Opinions were much divided on the subject ; it was generally conceded that fifty should be the maximum number for the lower classes, while it was not deemed advisable to fix any maximum for the higher classes ; all such details should be fixed by proper legislation.

(10) Have the existing regulations regarding the age of admission and the length of course in the different classes proved satisfactory ?

The experience of the last fifty years had shown that the regulations were entirely satisfactory, and that no change was desirable.

(11) Shall the number of hours per week be either increased or decreased ?

(12) Should instruction during the afternoon-hours be abolished, and how can the bodily welfare of the scholars be still more furthered than is done ?

All the speakers on this question favored the greatest possible reduction of the hours per week, most of them considering thirty hours the utmost limit, while one or two favored thirty-two.

Some thought that in the lower classes the number of hours might, without detriment, be still more reduced.

In large cities, it was considered desirable, but practically impossible, to abolish afternoon instruction.

Regarding No. 12, various recommendations were made, such as large, well-lighted, and well-ventilated rooms, the abolition of iron stoves, &c. It was also thought desirable, as benefiting the general health of the scholars, to distribute those studies which required greater mental exertion more evenly throughout the week, and to extend this consideration likewise to the written exercises.

(13) What should be the extent of the annual vacation, and how could greater uniformity in this respect be obtained ?

There seems to be great difference in this respect between the different parts of the country. The total annual extent of the vacations is everywhere ten or ten and one-half weeks, but the extent of vacations occasioned by church-festivals, and the extent of the midsummer, or principal, holiday, differ greatly. Many members favored the idea of placing the commencement of the scholastic year at the same time as the beginning of the calendar-year, and thus to produce greater uniformity. All were of opinion that the time for the principal vacation should be midsummer, especially the month of July. As regards other vacations, it was thought impracticable to have any legislation tending to greater uniformity.

(14) Many secondary schools, especially those supported by cities, have boards of trustees. Shall their duties be regulated by law ? Is it advisable to establish boards of trustees for those schools which are supported by the state, selecting them from the persons most interested in the school, (the school-community, *Schulgemeinde* ? )

The composition, duties, and privileges of these boards differ very much, in accordance with the different origin of the schools. Their duties should certainly be regulated by law, with the proviso that such legal regulations should

have no reactionary power, and should only be enforced with regard to new foundations. It was thought desirable to establish boards of trustees for the state-schools, whose privileges should be as extensive as possible.

(15) Has the school any disciplinary power over the conduct of scholars outside of school-hours?

While recognizing the fact that the school should educate as well as instruct its scholars, the opinion of the conference was that only general principles could safely be determined by law, and that the details should be governed by the circumstances in each case.

(16) Should promotion be based on length of service; and how should this whole matter of filling vacancies be regulated with a view to the growth of the state, the difference of origin of the schools, and the special qualifications required in certain cases?

It was regretted that there was no legislation whatever on this point; and, although it was acknowledged that the difficulties in the way of a uniform and universally satisfactory legislation would be very great, it was thought that an established order of filling vacancies would benefit both the schools and the teachers.

(17) Shall the present average weekly number of hours (16 for a director, 22 to 28 for teachers) be kept up?

Shall teachers be allowed to have any outside occupation, and on what conditions?

In how far can teachers be obliged to take the places of colleagues, prevented by sickness or other causes from attending to their duties, without remuneration?

Regarding the average weekly number of hours, no changes seemed desirable.

Outside occupations of teachers should only be permitted in exceptional cases, and never without the special consent of the respective school-authorities.

As regards remuneration being paid to teachers who take the places of sick or absent colleagues, the majority saw no objection to it; some were of opinion that no remuneration should be paid in cases of sickness, as it was the duty of the colleague to take the place, while others opposed this opinion.

In conclusion, Dr. Falk, the minister of public instruction, said that the ministry would take all the discussions of the meeting into careful consideration, and expressed the hope that sooner or later its results would benefit the secondary schools.

## STATISTICS OF GERMAN SECONDARY SCHOOLS.

---

The following statistics, the most reliable that could be obtained, are taken from "Dr. E. Mushacke, Deutscher Universitäts-und Schul-Kalender," (German University-and School-Almanac,) for 1872, prepared from official sources.

### ALSACE-LORRAINE.

[Area, 5,075 square miles ; population, 1,549,459.]

There are two kinds of classical colleges,\* differing but little except in name, viz, gymnasia and "colléges."

The number of gymnasia is four, with 215 students and 34 professors; and the number of "colléges," 16, with 122 students and 35 professors; making a total of 20 classical colleges, with 337 students and 69 professors.

### ANHALT.

[Area, 869 square miles ; population, 203,354.]

One person in every 171 of the population has a secondary education; one secondary school to every 25,419 inhabitants.

(1) *Classical colleges*: There is only one kind of classical colleges, viz, gymnasia.

There are four gymnasia, with 828 students, 78 professors, 23 graduates, and 18,000 volumes in the libraries.

One person in every 245 of the whole population has a classical education.† There is one classical college to every 50,838 of the population. The average number of students to each professor is 10, the average number of graduates from each college 5, and the average number of volumes in each library is 4,500.

(2) *Non-classical colleges*: Of these there are two kinds, viz, real-classes and higher burgher-schools.

The total number of non-classical colleges is four, with 879 students and 52 professors.

One person in every 233 of the whole population has a non-classical college education. There is one non-classical college to every 50,838 of the population, and the average number of students to each professor is 16.

---

\* For brevity's sake, the name "classical colleges" is employed for gymnasia and all similar institutions, and the name "non-classical colleges" for real-schools and all kindred schools.

† In this case, as in all the following, this is, of course, understood to mean that one person in so and so many of the population was then (1872) being educated at a secondary school.

## BADEN.

[Area, 5,904 square miles; population, 1,461,428.]

One person in every 243 of the population has a secondary education; one secondary school to every 29,825 inhabitants.

(1) *Classical colleges*: There are three kinds of classical colleges, viz: lyceums, (the highest grade;) gymnasia, (regular gymnasium-course;) and pædagogien, (the lowest grade.)

The total number of lyceums is 7, with 1,758 students, 119 professors, 100 graduates, and 14,100 volumes in the libraries; 8 gymnasia, with 953 students, 82 professors, 34 graduates, and 7,228 volumes in the libraries; and 2 pædagogien, with 62 students and 18 professors, making a total of 17 classical colleges, with 2,773 students, and 219 professors.

One person in every 526 of the whole population has a classical education; there is one classical college to every 85,966 of the population; the average number of students to each professor is 12; the average number of graduates from each classical college (15 reported) is 9; and the average number of volumes in each library (4 reported) is 5,332.

(2) *Non-classical colleges*: There is only one kind of non-classical colleges, viz, the higher burgher-schools.

There are 32 non-classical colleges, with 3,232 students, 194 professors, 13 graduates, and 3,412 volumes in libraries. One person in every 452 of the population has a non-classical college education; there is one non-classical college to every 45,669 of the population; the average number of students to each professor is 16; the average number of graduates from each college (3 reported) is 4; and the average number of volumes in each library (6 reported) is 568.

## BAVARIA.

[Area, 29,617 square miles; population, 4,861,402.]

One person in every 311 of the population has a secondary education; one secondary school to every 40,853 inhabitants.

(1) *Classical colleges*: There are three kinds of classical colleges, viz: *Studienanstalten*, (gymnasium and Latin school combined;) Latin schools, (with a more extensive course of Latin, German, geography, and penmanship, and less Greek;) and real-gymnasia, (adding to the gymnasium-course a more thorough instruction in mathematics and natural sciences.)

There are 28 *Studienanstalten*, with 7,820 students, 597 professors, 368 graduates, and 234,200 volumes in libraries; 6 real-gymnasia, with 403 students, 70 professors, 48 graduates, and 3,832 volumes in libraries; 50 Latin schools, with 2,749 students, 373 professors, and 10,388 volumes in libraries; making a total of 84 classical colleges, with 10,972 students and 1,040 professors.

One person in every 443 of the population has a classical education; there is one classical college to every 57,873 inhabitants; the average number of students to each professor is 10; the average number of graduates from each college (34 reported) is 16; and the average number of volumes in each library (34 reported) is 7,588.

(2) *Non-classical colleges*: There are two kinds of non-classical colleges, viz, *Gewerbeschulen*, (industrial schools of a higher grade,) and *Handelsschulen*, (business-colleges;) while frequently the two are combined.

The total number of non-classical colleges is 35, with 4,629 students, 425 professors, 111 graduates, and 16,485 volumes in libraries. One person in every 1,050 of the whole population has a non-classical college education; there is one non-classical college to every 138,897 inhabitants; the average number of students to each professor is 10; the average number of graduates from each college (10 reported) is 11; and the average number of volumes in each library (9 reported) is 1,831.

#### BREMEN.

[Area, 106 square miles; population, 122,565.]

One person in every 54 of the population has a secondary education; one secondary school to 12,256 inhabitants.

(1) *Classical colleges*: There is only one kind of classical colleges, viz, the gymnasium.

There is one gymnasium, with 238 students, 16 professors, 9 graduates, and 3,765 volumes in the library.

One person in every 514 of the population has a classical education; there is one classical college to 122,565 inhabitants; and the average number of students to each professor is 14.

(2) *Non-classical colleges*: There are two kinds of non-classical colleges, viz, real-schools and *Handelsschulen*, (business-colleges.)

The total number of non-classical colleges is 9, with 2,032 students, 89 professors, 15 graduates, and 5,815 volumes in libraries.

One person in every 60 of the population has a non-classical college education; there is one non-classical college to 13,618 inhabitants; the average number of students to each professor is 22; the average number of graduates from each college (1 reported) is 15; and the average number of volumes in each library (4 reported) is 1,453.

#### BRUNSWICK.

[Area, 1,526 square miles; population, 311,715.]

One person in every 141 of the population has a secondary education; one secondary school to 38,964 inhabitants.

(1) *Classical colleges*: There is only kind of classical colleges, viz, gymnasia.

There are 6 classical colleges, (gymnasia,) with 1,574 students, 86 professors, 44 graduates, and 15,400 volumes in the libraries.

One person in every 198 of the population has a classical education; there is one classical college to 51,952 inhabitants; the average number of students to each professor is 18; the average number of graduates from each college (5 reported) is 9; and the average number of volumes in each library (3 reported) is 5,133.



(2) *Non-classical colleges*: There are two kinds of non-classical colleges, viz, real-schools and higher burgher-schools.

The total number of colleges is 2, with 629 students, 49 professors, 4 graduates, and 4,000 volumes in libraries.

One person in every 495 of the population has a non-classical college education; there is one non-classical college to 150,857 inhabitants; and the average number of students to each professor is 12.

#### HAMBURG.

[Area, 148 square miles; population, 338,974.]

One person in every 104 of the population has a secondary education; one secondary school to 24,212 inhabitants.

(1) *Classical colleges*: There are two kinds of classical colleges, viz, gymnasia and progymnasia.

The total number of colleges is 2, with 370 students, 23 professors, and 16 graduates.

One person in every 992 of the population has a classical education; there is one classical college to 169,487 inhabitants; and the average number of students to each professor is 16.

(2) *Non-classical colleges*: There are two kinds, viz, real-schools and *Handelsschulen*, (business-colleges.)

Total number of non-classical colleges, 12, with 2,884 students and 164 professors.

One person in every 117 of the population has a non-classical college education; there is one non-classical college to 28,247 inhabitants; and the average number of students to each professor is 17.

#### HESSE.

[Area, 3,240 square miles; population, 852,843.]

One person in every 200 of the population has a secondary education; one secondary school to 44,886 inhabitants.

(1) *Classical colleges*: There are two kinds, viz, gymnasia and pro-gymnasia.

There are 6 gymnasia, with 1,327 students, 101 professors, and 61 graduates; and 1 pro-gymnasium, with 55 students and 5 professors; making a total of 7 classical colleges, with 1,382 students, 106 professors, and 61 graduates.

One person in every 617 of the population has a classical education. There is 1 classical college to 121,834 inhabitants; the average number of students to each professor is 13; and the average number of graduates from each college (6 reported) is 10.

(2) *Non-classical colleges*: There are real-schools, both public and private.

Total number of non-classical colleges, 12, with 2,870 students, 131 professors, 125 graduates, and 13,868 volumes in libraries.

One person in every 297 of the population has a non-classical college education; one non-classical college to 71,070 inhabitants; the average number of

students to each professor is 21; the average number of graduates from each college, (8 reported,) 15; and the average number of volumes in each library, (6 reported,) 2,311.

## LIPPE-DETMOLD.

[Area, 445 square miles; population, 111,153.]

One person in every 265 of the population has a secondary education; one secondary school to 27,788 inhabitants.

(1) *Classical colleges*: There is only one kind, viz, the gymnasia.

Two gymnasia, with 278 students, 25 professors, 6 graduates, and 6,300 volumes in the libraries.

One person in every 398 of the population has a classical education; there is one classical college to 55,576 inhabitants; the average number of students to each professor is 11; the average number of graduates from each college is 6; and the average number of volumes in each library, 3,150.

(2) *Non-classical colleges*: There is only one kind, viz, real-schools. Total number of colleges, 2, with 140 students, 7 professors, and 6 graduates.

One person in every 794 of the whole population has a non-classical college education; there is one college to 55,576 inhabitants; and the average number of students to each professor is 20.

## LÜBECK.

[Area, 109½ square miles; population, 52,158.]

One person in every 32 of the population has a secondary education; one secondary school to 6,519 inhabitants.

(1) *Classical colleges*: There is only one kind, viz, gymnasia.

One gymnasium, with 183 students, 10 teachers, and 11 graduates.

One person in every 285 of the population has a classical education; there is one classical college to 52,158 inhabitants; average number of students to each professor, 18.

(2) *Non-classical colleges*: There are two kinds, viz, real-schools and *Handelsschulen*, (business-colleges.)

Total number of non-classical colleges, 7, with 1,434 students, 76 professors, 13 graduates, and 850 volumes in libraries.

One person in every 36 of the population has a non-classical college education; one non-classical college to 7,451 inhabitants; average number of students to each professor, 18.

## MECKLENBURG-SCHWERIN.

[Area, 4,834 square miles; population, 557,897.]

One person in every 242 of the population has a secondary education; one secondary school to 34,868 inhabitants.

(1) *Classical colleges*: There are two kinds, viz, gymnasia and pro-gymnasia.

The number of gymnasia is 6, with 1,388 students, 77 professors, 22 gradu-

ates, and 26,450 volumes in libraries; and 2 pro-gymnasia, with 276 students, 17 professors, 2 graduates, and 648 volumes in libraries; making a total of 8 classical colleges, with 1,664 students, 94 professors, 24 graduates, and 27,098 volumes in the libraries.

One person in every 335 of the population has a classical education; there is one classical college to 69,736 inhabitants; the average number of students to each professor is 17; the average number of graduates from each college, (6 reported,) 4; and the average number of volumes in each library (4 reported) is 6,774.

(2) *Non-classical colleges*: There are two kinds, viz, real-schools and higher burgher-schools.

The total number of non-classical colleges is 8, with 1,330 students, 59 professors, and 5 graduates.

One person in every 419 of the population has a non-classical college education; there is one non-classical college to 69,737 inhabitants; and the average number of students to each professor is 22.

#### MECKLENBURG-STRELITZ.

[Area, 997 square miles; population, 96,982.]

One person in every 140 of the population has a secondary education; one secondary school to 19,396 inhabitants.

(1) *Classical colleges*: There is only one kind of classical colleges, viz, gymnasia.

Number of gymnasia, 3, with 436 students, 35 professors, and 14 graduates.

One person in every 222 of the population has a classical education; there is one classical college to 32,327 inhabitants; and the average number of students to each professor is 12.

(2) *Non-classical colleges*: There are two kinds, viz, real-schools and higher burgher-schools.

Total number of non-classical colleges, 2, with 255 students, 18 professors, 1 graduate, and 680 volumes in libraries.

One person in every 380 of the population has a non-classical college education; there is one non-classical college to 48,491 inhabitants; and the average number of students to each professor is 14.

#### OLDENBURG.

[Area, 2,417 square miles; population, 316,641.]

One person in every 180 of the population has a secondary education; one secondary school to 21,109 inhabitants.

(1) *Classical colleges*: There are two kinds of classical colleges, viz, gymnasia and pro-gymnasia.

Number of classical colleges, 5, with 754 students, 56 professors, 11 graduates, and 42,300 volumes in the libraries.

One person in every 419 of the population has a classical education; there is

one classical college to 63,328 inhabitants; the average number of students to each professor is 13; the average number of graduates from each college (3 reported) is 4; and the average number of volumes in each library (3 reported) is 14,100.

(2) *Non-classical colleges*: There are two kinds, viz, real-schools and higher burgher-schools.

Total number of colleges, 10, with 1,005 students, 54 professors, 4 graduates, and 238 volumes in libraries.

One person in every 315 of the population has a non-classical college education; one non-classical college to 31,664 inhabitants; average number of students to each professor, 18; average number of volumes in each library, (2 reported,) 119.

#### PRUSSIA.

[Area, 137,066 square miles; population, 24,691,203.]

One person in every 190 of the population has a secondary education; one secondary school to 49,382 inhabitants.

(1) *Classical colleges*: There are two kinds of these, viz, gymnasia and progymnasia.

There are 215 gymnasia, with 69,119 students, 3,593 professors, 1,836 graduates, and 1,043,499 volumes in libraries; and 64 progymnasia, with 6,641 students, 508 professors, and 33,432 volumes in libraries; making a total of 279 classical colleges, with 75,760 students, 4,101 professors, 1,836 graduates, and 1,076,931 volumes in libraries.

One person in every 391 of the population has a classical education; one college to 88,498 inhabitants; average number of students to each professor, 18; average number of graduates from each college, (215 reported,) 8; and average number of volumes in each library, (148 reported,) 7,270.

(2) *Non-classical colleges*: There are two kinds of non-classical colleges, viz, real-schools and higher burgher-schools.

Total number 231, with 54,009 students, 2,752 professors, 587 graduates, and 185,433 volumes in libraries.

One person in every 457 of the population has a non-classical college education; one non-classical college to 106,886 inhabitants; average number of students to each professor, 19; average number of graduates from each college, (108 reported,) 5; average number of volumes in each library, (110 reported,) 1,685.

#### REUSS-GREIZ.

[Area, 104 square miles; population, 45,094.]

One person in every 135 of the population has a secondary education; one secondary school to 22,847 inhabitants.

(1) *Classical colleges*: There is only one kind of classical college, viz, the Lyceal School, containing one gymnasium-class.

It has 6 students and 1 professor.

One person in every 7,515 of the population has a classical education, and there is one college to 45,094 inhabitants.

(2) *Non-classical colleges*: There is only one kind of non-classical college, viz, the second division of the Lyceal School above mentioned.

It has 327 students, 6 professors, and 950 volumes in the library.

One person in every 137 of the population has a non-classical college education, and there is one college to 45,094 inhabitants.

#### REUSS-SCHLEIZ.

[Area, 297 square miles; population, 89,032.]

One person in every 93 of the population has a secondary education; one secondary school to 22,847 inhabitants.

(1) *Classical colleges*: There is only one kind, viz, the gymnasium. There are two gymnasia, with 341 students, 23 professors, 5 graduates, and 16,200 volumes in libraries.

One person in every 261 of the population has a classical education; there is one classical college to 44,516 inhabitants; average number of students to each professor, 15; average number of graduates from each college, 2; and average number of volumes in each library, 8,100.

(2) *Non-classical colleges*: There are two kinds, viz, real-schools and *Handels-schulen*, (business-colleges.)

Number of non-classical colleges, 2, with 625 students, 28 professors, 27 graduates, and 1,150 volumes in libraries.

One person in every 142 of the population has a non-classical college education; one college to 44,516 inhabitants; average number of students to each professor, 22; average number of graduates from each college, 13.

#### SAXE-ALTENBURG.

[Area, 509 square miles; population, 142,122.]

One person in every 253 of the population has a secondary education; one secondary school to 47,374 inhabitants.

(1) *Classical colleges*: There are two kinds, viz, 1 gymnasium and 1 pro-gymnasium.

Total: 2 classical colleges, with 396 students, 21 professors, 7 graduates, and 8,450 volumes in libraries.

One person in every 359 of the population has a classical education; there is one classical college to 71,061 inhabitants; the average number of students to each professor is 18; and the average number of volumes in each library is 4,225.

(2) *Non-classical colleges*: There is only one kind, viz, the higher burgher-school.

It has 164 students and 11 professors.

One person in every 806 of the population has a non-classical college education; there is one college to 142,122 inhabitants; and the average number of students to each professor is 14.

## SAXE-COBURG-GOTHA.

[Area, 509 square miles ; population, 174,339.]

One person in every 133 of the population has a secondary education ; one secondary school to 34,867 inhabitants.

(1) *Classical colleges* : There is only one kind, viz, gymnasia.

There are 2 gymnasia, with 693 students, 35 professors, 16 graduates, and 25,000 volumes in libraries.

One person in every 251 of the population has a classical education ; there is one classical college to 87,169 inhabitants ; average number of students to each professor, 17 ; average number of graduates from each college, 8 ; and average number of volumes in each library, 12,500.

(2) *Non-classical colleges* : There is only one kind, viz, real-schools.

Their number is 3, with 610 students, 32 professors, 3 graduates, and 1,790 volumes in libraries.

One person in every 285 of the population has a non-classical college education ; there is one non-classical college to 58,113 inhabitants ; and average number of students to each professor, 19.

## SAXE-MEININGEN.

[Area, 933 square miles ; population, 187,884.]

One person in every 245 of the population has a secondary education ; one secondary school to 37,576 inhabitants.

(1) *Classical colleges* : There is only one kind, viz, gymnasia.

Number of gymnasia, 2, with 232 students, 25 professors, and 19 graduates.

One person in every 809 of the population has a classical education ; one classical college to 93,942 inhabitants ; average number of students to each professor, 9 ; and average number of graduates from each college, 9.

(1) *Non-classical colleges* : There are two kinds, viz, real-schools and higher burgher-schools.

Number of colleges, 3, with 534 students, 30 professors, 6 graduates, and 5,770 volumes in libraries.

One person in every 351 of the population has a non-classical college education ; one non-classical college to 62,628 inhabitants ; average number of students to each professor, 18 ; average number of graduates from each college, 2 ; and average number of volumes in each library, (2 reported,) 2,885.

## SAXE-WEIMAR.

[Area, 1,421 square miles ; population, 286,183.]

One person in every 252 of the population has a secondary education ; one secondary school to 31,798 inhabitants.

(1) *Classical colleges* : There are two kinds, viz, gymnasia, (public,) and private institutions of a similar character.

Total number of colleges, 5, with 654 students, 94 professors, 7 graduates, and 7,000 volumes in libraries.

One person in every 437 of the population has a classical education ; there is one classical college to 57,236 inhabitants ; average number of students to each professor, 15 ; average number of graduates in each college, (3 reported,) 2.

(2) *Non-classical colleges* : There are two kinds, viz, real-schools and higher burgher-schools.

Total number of colleges, 4, with 481 students, 27 professors, and 2,368 volumes in libraries.

One person in every 594 of the population has a non-classical college education ; one non-classical college to 71,545 inhabitants ; average number of students to each professor, 17 ; and average number of volumes in each library, (3 reported,) 789.

#### SAXONY.

[Area, 6,777 square miles ; population, 2,556,244.]

One person in every 343 of the population has a secondary education ; one secondary school to 60,863 inhabitants.

(1) *Classical colleges* : There are two kinds, viz, public gymnasia, and private institutions of a similar character.

Total number of colleges, 17 ; with 2,864 students, 276 professors, 137 graduates, and 72,915 volumes in libraries.

One person in every 892 of the population has a classical education ; one classical college to 150,367 inhabitants ; average number of students to each professor, 10 ; average number of graduates from each college, 11 ; average number of volumes in each library, (9 reported,) 8,101.

(2) *Non-classical colleges* : There are two kinds, viz, real-schools and *Handels-schulen*, (business-colleges.)

Total : 25 colleges, with 4,574 students, 311 professors, 220 graduates, and 12,890 volumes in libraries.

One person in every 558 of the population has a non-classical college education ; one non-classical college to 102,249 inhabitants ; average number of students to each professor, 14 ; average number of graduates from each college, (12 reported,) 18 ; and average number of volumes in each library, (10 reported,) 1,289.

#### SCHAUMBURG-LIPPE.

[Area, 212 square miles ; population, 32,051.]

One person in every 133 of the population has a secondary education ; one secondary school to 32,051 inhabitants.

(1) *Classical colleges* : There is only one kind, viz, the gymnasium, with 240 students, 13 professors, and 2 graduates.

One person in every 133 of the population has a classical education ; one classical college to 32,051 inhabitants ; average number of students to each professor, 18.

(2) *Non-classical colleges* : There are none.

## SCHWARZBURG-RUDOLSTADT.

[Area, 340 square miles; population, 75,523.]

One person in every 281 of the population has a secondary education; one secondary school to 37,761 inhabitants.

(1) *Classical colleges*: There is only one kind, the gymnasium, with 192 students, 16 professors, 6 graduates, and 5,580 volumes in libraries.

One person in every 393 of the population has a classical education; one classical college to 75,523 inhabitants; average number of students to each professor, 12.

(2) *Non-classical colleges*: There are so-called real-classes; 1 college, with 76 students and 6 professors.

One person in every 995 has a non-classical college education; average number of students to each professor, 12.

## SCHWARZBURG-SONDRERSHAUSEN.

[Area, 318 square miles; population, 67,191.]

One person in every 100 of the population has a secondary education; one secondary school to 16,797 inhabitants.

(1) *Classical colleges*: There is only one kind, viz, gymnasia.

Total: 2 gymnasia, with 265 students, 21 professors, 1 graduate, and 7,230 volumes in libraries.

One person in every 253 of the population has a classical education; one classical college to 33,595 inhabitants; average number of students to each professor, 12.

(2) *Non-classical colleges*: There is only one kind, viz, real-schools.

Number of colleges, 2, with 403 students, 24 professors, and 2,637 volumes in libraries.

One person in every 151 of the population has a non-classical college education; one college to 30,595 inhabitants; average number of students to each professor, 17.

## WALDECK.

[Area, 466 square miles; population, 56,218.]

One person in every 96 of the population has a secondary education; one secondary school to 14,054 inhabitants.

(1) *Classical colleges*: There is only one kind, viz, the gymnasium, with 99 students, 11 professors, 4 graduates, and 2,000 volumes in library.

One person in every 567 of the population has a classical education; one classical college to 56,218 inhabitants; average number of students to each professor, 9.

(2) *Non-classical colleges*: There are two kinds, viz, real-classes and higher burgher-schools.

Total: 3 colleges, with 481 students and 13 professors.



One person in every 117 of the population has a non-classical college education; one non-classical college to 18,739 inhabitants; average number of students to each professor, 37.

#### WÜRTTEMBERG.

[Area, 7,840 square miles; population, 1,818,541.]

One person in every 199 of the population has a secondary education; one secondary school to 14,097 inhabitants.

(1) *Classical colleges*: There are four kinds, viz, seminaries, (boarding-colleges, chiefly for young men who intend to study theology;) gymnasia; lyceums, (lower gymnasium-course;) and Latin schools, (also a lower gymnasium-course, some of them being combined with real-schools.)

There are 4 seminaries, 7 gymnasia, 8 lyceums, and 70 Latin schools; making a total of 89 classical colleges, with 5,162 students, 497 professors, and 57,940 volumes in the libraries.

One person in every 352 of the population has a classical education; one classical college to 20,433 inhabitants; average number of students to each professor, 10; average number of graduates from each college, (6 reported,) 16; and average number of volumes in each library, (14 reported,) 4,138.

(2) *Non-classical colleges*: There are two kinds, viz, higher real-schools and real-schools.

Total: 40 non-classical colleges, with 3,967 students, 198 professors, 98 graduates, 6,140 volumes in libraries.

One person in every 458 of the population has a non-classical college education; one non-classical college to 45,463 inhabitants; average number of students to each professor, 20; average number of graduates from each college, (6 reported,) 6; and average number of volumes in each library, (6 reported,) 1,023.

#### TOTAL OF THE GERMAN EMPIRE.

[Area, 210,035 square miles; population, 40,107,428.]

(1) *Classical colleges*: 564 colleges, with 108,694 students, 6,951 professors, 2,906 graduates, and 1,661,857 volumes in libraries.

One person in every 377 of the population has a classical education; there is one classical college to 32,805 inhabitants; the average number of students to each professor is 15; average number of graduates from each college, 5; and average number of volumes in each library, (237 reported,) 7,012.

(2) *Non-classical colleges*: 481 colleges, with 87,570 students, 4,756 professors, 1,238 graduates, and 264,476 volumes in the libraries.

One person in every 468 of the population has a non-classical college education; there is one non-classical college to 85,360 inhabitants; the average number of students to each professor is 18; average number of graduates from each college (157 reported) is 8; and the average number of volumes in each library (168 reported) is 1,574.

(3) *Grand total of secondary schools*: 1,045 colleges, with 196,264 students, 11,707 professors, 4,144 graduates, and 1,926,333 volumes in the libraries.

One person in every 299 of the population has a secondary education; there is one secondary school to 39,290 inhabitants; the average number of students to each professor is 16; the average number of graduates from each college, (604 reported,) 7; and the average number of volumes in each library, (405 reported,) 4,756.

GENERAL STATISTICS OF GERMAN SECONDARY SCHOOLS.\*

States.	Population.	Number of colleges.			Number of students.			Number of professors.		
		Classical.	Non-classical.	Total.	In classical colleges.	In non-classical colleges.	Total.	In classical colleges.	In non-classical colleges.	Total.
1. Alsace-Lorraine .....	1,549,459	20	.....	20	337	.....	337	69	.....	69
2. Anhalt.....	203,354	4	4	8	828	879	1,707	78	52	130
3. Baden.....	1,461,428	17	32	49	2,773	3,232	6,005	219	194	413
4. Bavaria.....	4,861,402	84	35	119	10,972	4,629	15,601	1,040	425	1,465
5. Bremen.....	122,565	1	9	10	238	2,032	2,270	16	89	105
6. Brunswick.....	311,715	6	2	8	1,574	629	2,203	86	49	135
7. Hamburg.....	338,974	2	12	14	370	2,884	3,254	23	164	187
8. Hesse.....	852,843	7	12	19	1,382	2,870	4,252	106	131	237
9. Lippe-Detmold.....	111,153	2	2	4	279	140	419	25	7	32
10. Lübeck.....	52,158	1	7	8	183	1,434	1,617	10	76	86
11. Mecklenburg-Schwerin	557,897	8	8	16	1,664	1,330	2,994	94	59	153
12. Mecklenburg-Strelitz.	96,982	3	2	5	436	255	691	35	18	53
13. Oldenburg.....	316,641	5	10	15	754	1,005	1,759	56	54	110
14. Prussia.....	24,691,203	279	231	510	75,760	54,009	129,769	4,101	2,752	6,853
15. Reuss-Greiz.....	45,094	1	1	2	6	327	333	1	6	7
16. Reuss-Schleiz.....	89,032	2	2	4	341	625	966	23	28	51
17. Saxe-Altenburg.....	142,122	2	1	3	396	164	560	21	11	32
18. Saxe-Coburg-Gotha...	174,339	2	3	5	693	610	1,303	35	32	67
19. Saxe-Meiningen.....	187,884	2	3	5	232	534	766	25	30	55
20. Saxe-Weimar.....	286,183	5	4	9	654	481	1,135	94	27	121
21. Saxony.....	2,556,244	17	25	42	2,864	4,574	7,438	276	311	587
22. Schaumburg-Lippe...	32,051	1	.....	1	240	.....	240	13	.....	13
23. Schwarzburg-Rudolstadt.....	75,523	1	1	2	192	76	268	16	6	32
24. Schwarzburg-Sondershausen.....	67,191	2	2	4	265	403	668	21	24	45
25. Waldeck.....	56,218	1	3	4	99	481	580	11	13	24
26. Württemberg.....	1,818,541	89	40	129	5,162	3,967	9,129	497	198	695
Total.....	41,058,196	564	481	1,045	108,694	87,570	196,264	6,951	4,756	11,707

\* In this table all the secondary schools have, for brevity's sake, been termed colleges, viz: the gymnasia and the kindred institutions, classical colleges; and the real-schools, higher burgher-schools, &c, non-classical colleges.

## PROF. ALLEN ON GERMAN SCHOOLS.

The following extracts from communications to this Office by Prof. Nathaniel T. Allen, LL.D., principal of the school at West Newton, Mass., a well-known educator, are of interest in connection with the subject-matter of this circular, since they give the conclusions reached in regard to the working of the German system of education by a competent American observer.

*German system.*—The system of education usually denominated the Prussian system is not justly so called; for an equally perfect system, not copied from the Prussian, exists in Saxony, Nassau, and other parts of Germany. In fact, these two nations claim that in certain particulars their system is superior to that of Prussia, offering in proof the less percentage of illiteracy in Saxony and Nassau than in Prussia; also, the fact that at the public examinations of the University and Military School in Berlin the students from Saxony proved superior to those of Prussia. The systems in Weimar, Hamburg, and other portions of Germany are equally good; therefore I term the system, as a whole, the German system.

*Difference in the underlying ideas of German and American systems.*—In order to understand and appreciate at its true value the German system, it is necessary to fully comprehend and to bear constantly in mind the radical difference in the ideas underlying that and the American system: the one adapted to perpetuate a free democratic, the other a despotic government; the one intended to produce intelligent, freedom-loving citizens, from whom all power in government emanates; the other, to make faithful, contented subjects of a sovereign in whom is vested all power and liberty to express thought. The German system is arranged with special reference to the fact that none of the children educated under it are ever to come into possession of manhood, as we understand true manhood, with its broad and intelligent freedom. There is much in the German plan of education which would be rejected by the intelligence and free thought of a democracy, and which men of advanced thought in Germany are anxiously striving to expunge from their system.

*School-law and schools.*—In Germany, all children must enter school at the age of seven and continue until fourteen or fifteen years of age, or until confirmation. Attendance is compulsory. School-buildings are erected; teachers selected, employed, and paid; text-books, course of study, &c., decided upon, without the least reference to the will of the parents or their representatives, and parents are not invited or allowed to visit the schools. Even at the annual examinations they are never present.

*Boys' schools.*—The *Dorf-Schule* (village-school) of the country and the *Bürger-Schule* (citizens' school) of the city or large town are intended for the children of peasants, humble workmen, and mechanics. The course for these is thorough, though not extending beyond the common branches; well fitted for *those whose future condition must, with rare exceptions, continue the same as*

that of their parents. The course comprises reading, writing, arithmetic, geography, history, correct use of language, some rudiments of natural history, with the Lutheran catechism thoroughly committed to memory, occupying much time during the whole school-course.

The *Volks-Schule* (people's school) of the cities and large towns are for the children of the lowest and poorest classes of artisans, day-laborers, servants, &c. In these schools, the tuition is usually free, and they were, until two years ago, the only free schools. The course and extent of study in these schools is limited. The plan is as follows: first year, poetry committed to memory, reading, writing, arithmetic, and instruction in religion; second year, same as the first, with penmanship and practice in conversation added; third year, same as the second, with the addition of Bible-history, geography, and natural science. The remaining four years, the full course is: religion, Bible-history, reading and conversation, penmanship, arithmetic, geography, history, natural science, singing, and frequently instruction in various handwork, basket-making, straw-plaiting, &c.

*Real-Schule.*—This class of schools is designed for those who can afford the expense of tuition, 30 to 35 thaler, (\$21 to \$24 per annum,) and who desire special preparation for commercial, mechanical, or other pursuits. The entire course extends from seven to sixteen or eighteen years of age, though many leave at fourteen, after confirmation. Students remaining through the full course are prepared for the higher professional schools of agriculture and commerce, teachers' seminaries, technical and polytechnic schools. One of the best schools of this class is the Friedrich-Wilhelms Real-Schule, Berlin, under the able direction of Dr. Ranke, brother to the historian Ranke. There are 630 students, from seven to eighteen years of age. Its study-plan is as follows:

*Languages:* German: reading, spelling, writing, and German history and literature very thoroughly. Latin: from the first year through the entire course. French: from the second year through the remainder of the course. English: from the fourth year through the remainder of the course.

*Mathematics:* Through the entire course.

*Geography and history:* Generally combined through the entire course.

*Natural history:* From the first to the year before the last.

*Physics and chemistry:* The last three years, with laboratory-experiments the last year.

*Mechanics:* The last year.

*Drawing:* Through the entire course.

*Religion:* The first seven years, until confirmation.

*Singing:* Through the course.

*Turning, (gymnastics:)* Through the course.

The pupils have, during the first year, 32 recitations per week, of 50 minutes each; during the second year, 33 per week; during the third year, 34; the remaining years, 32; until the last year, when the number is 34. This is about the number of recitations required in the *Real-Schule*, though in some instances it is exceeded. No student can be excused from the full number of studies prescribed. The *Höhere Bürger-Schule* of Nassau and the *Gewerbe-*

*Schule* or *Real-Schule*, second degree, of Prussia and Saxony, are nearly identical in rank and study-plan; the latter differing from that of the *Real-Schule* proper only in omitting Latin entirely, and giving greater attention to the modern languages and the branches relating to practical life. These schools are very popular and successful.

*Gymnasia* are schools where students are prepared for the universities, and correspond to our best Latin schools and colleges combined, receiving boys at seven and graduating them at about eighteen years of age. The course of study in these gymnasia is of the most thorough and broad character, demanding the utmost devotion of students during the entire period of eleven years, and graduating them with a more thorough and comprehensive knowledge of the classics than is often found in the graduates of the best colleges in the United States.

The above-named schools embrace all, in effect, that are comprised in the justly-celebrated system of public instruction for boys in Germany.

*Elementary art-schools.*—The *Gewerbe-Schule*, (school of industry,) or art-school, is a class of school generally established in large cities and towns in Germany, where apprentices to the various handicrafts receive instruction in their special trades. In Heidelberg, and other cities of Germany, all employers are compelled by law to allow their apprentices to attend the *Gewerbe-Schule* each evening in the week and every Sunday morning. Thorough instruction is given in free-hand- and mechanical drawing, in connection with geometry and algebra, that pupils may understand the principles as applied. Here, also, are taught the first principles of architecture, molding, sculpture, &c. An apprentice in any craft can receive instruction in the principles lying at the foundation of his own special work. Evidence of superior talent in any direction is noticed, and its possessor frequently has opportunity offered to enter another institution of higher grade, where he can pursue his studies under professors of eminence. These art-schools are invaluable in furnishing skilled artisans, and are the cause of the superiority of German to English and American workmen of the same class.

*Schools for girls.*—In the German system of public instruction, there is a direct acknowledgment of the mental inequality of the sexes. Boys and girls are never found in the same school, except in some *Dorf*-, or country-, school where the population is sparse, or in a few of the lowest class of schools in the cities, and then only for the first two or three years, and in all girls' schools the course of study is very limited.

The *Bürger-Schule* for girls is the most common. The study-plan is nearly identical with that in the same class of school for boys, except that girls are not taught the elementary principles of geometry, needle-work and knitting being substituted. In gymnastics, the drill is the same as in the boys' schools. No opportunities have been offered in the public schools for the further instruction of girls, until within a few years, when *Töchterschulen*, (girls' schools,) and *Höhere-Töchterschulen*, (girls' high schools,) have been opened in some of the cities. A very small number, comparatively, have opportunity to attend these, and they are rather an experiment, and not yet fully acknowledged as an es-

established fact and as making part of the system. The Victoria School in Berlin is an excellent specimen of this class. The following plan of study shows the highest facilities furnished girls or young ladies in any of the public schools of Germany. It is the one adopted in the Girls' High School, Wiesbaden, Nassau.

First year, girls seven years of age: Religion, reading, writing, arithmetic, with handwork, needlework, &c.

Second year: Same as first.

Third year: The same, except omitting arithmetic, and adding German and French grammar, and fine penmanship.

Fourth year: Religion, German and French, geography, arithmetic, singing, penmanship, handwork, needlework, &c.

Fifth year: Same as last, omitting arithmetic, and adding drawing, history, and English language.

Sixth year: Religion, German, French, and English history, natural history, geography, arithmetic, singing, fine penmanship, drawing, handwork, and gymnastics.

Seventh year: Same as previous, adding literature.

Eighth and ninth years: Same as sixth, with a more extended course of literature, and the addition of embroidery.

Latin, geometry, algebra, the elements of chemistry, natural philosophy, physics, astronomy, and other equally useful branches, are entirely omitted. The private schools for girls are rarely equal to those described above, and a parent wishing to give a daughter a superior education can only do it, at great expense, through private tutors.

Such, in brief, is the, in many respects, best system of public instruction ever adopted in any country, admirably adapted to the purpose designed, wrought out with wonderful skill and exactness, and so all-embracing as to be adapted to every child throughout Germany. While acknowledging the great superiority of this system as a whole, it is impossible to concede to it absolute perfection.

*Defects of the German school system.*—Its principal defects seem to be these:

- I. It is autocratic, not allowing parents any voice whatever in school-matters.
- II. It is unjust toward girls, declaring and perpetuating the idea of their great mental inferiority.
- III. It is undemocratic, in its schools for different classes or castes in society.

IV. It is sectarian, and narrowly bigoted in the religious dogmatic instruction prescribed and forced upon all.

V. It is not a free-school-system, the schools being almost universally tuition-paying. This the German educators contend is far better for the schools.

*Caste distinction established and maintained in schools.*—As an illustration of the determination of the government to keep up the distinctions of caste in the schools, may be mentioned an occurrence in Berlin during the winter of 1869-'70. Parents in the lower classes, ambitious for their sons' advance-

ment, would exert themselves to pay the few thaler's difference in the tuition between the burgher and real-schools, sending them to the latter, or higher, grade of school. This course being pursued by increasing numbers of late years, the effect has been to crowd the real at the expense of the burgher schools, furnishing also opportunities for pursuing branches of study which the government considers not only unnecessary, but absolutely hurtful, to the lower classes. This difficulty was obviated by raising the price of tuition in the real-schools, and lowering it in the burgher schools, so that the latter were in reality free. This had the effect of keeping the children of the laboring classes in schools by themselves. Practically, therefore, the children in the community are separated by government into three or four distinct grades, where studies are arranged with reference to their future position in life, which, by this means, is, in fact, decided for them.

#### SCHOOL-BUILDINGS, FURNITURE, APPARATUS, TEXT-BOOKS, ETC.

*School-buildings.*—Throughout Germany, the buildings used for schools are almost universally old and massive, constructed of brick or stone, with immensely thick walls. Most of these were erected during the last century, some for school-purposes, others having been used for government-purposes. These edifices are ill-adapted to the wants of the times, looking more like prisons than places for the young. The windows are small, inconveniently constructed, and with insufficient light, which often falls upon the desks as cross-light. Three-fourths of the school-buildings in Germany are of this description; and though some of the new ones are on an improved plan, too frequently are the new patterned after the old. No attention whatever is paid to ventilation, and it is impossible to convey to an American any idea of the condition of the schools in this respect. The pupils are universally pale and sallow; and oculists consider the afflictions of the eyes, so common among Germans, due in a great degree to the impure air and defective light of the school-rooms, where so large a part of their youth is spent. Even in buildings constructed upon good principles, the ventilating-apparatus is rarely sufficiently used to accomplish its object.

*Furniture, desks, &c.*—In all classes of educational institutions in Germany, the furniture is of the plainest character, inconvenient, and uncomfortable. The general type is such as was used in Massachusetts forty years ago. The plank desk is sufficiently long to accommodate five or six pupils, who sit upon a plank of equal length, six inches wide, without back, except as the desk behind may serve as such. Teachers are generally anxious to introduce improved desks and benches, and physicians urge a change on grounds of health.

*Apparatus.*—The Germans excel all other nations in the beauty and accuracy of their maps, charts, and globes, yet these are rarely seen in the lower class of schools, while in the higher they are generally kept in a room with other apparatus, to be taken and used in the classes as desired. The walls are almost universally bare of apparatus or pictures of any kind; even black-boards are confined to a single one of moderate dimensions behind the teacher's desk, for his especial use. The apparatus used to illustrate the principles

of geography, chemistry, and natural philosophy is good, but scarcely equal in quality to that of high schools generally in the United States.

*Text-books.*—The method which generally prevails of imparting instruction is such that comparatively few text-books are used, and these much inferior to the ones in use with us. It is through the faithful instruction and hard plodding of both teacher and pupil that so much is accomplished in the German schools. With fewer outward facilities than we possess, they yet attain much more in the end of book-knowledge.

*The teacher's profession, character, preparation, and social position.*—Teaching is an established profession in Germany; it is not made a stepping-stone to other professions, as it so often is with us. Young men pursue their studies with special reference to their future position as teachers, usually taking their degree as doctor of philology, and enter at once upon their calling. Teachers are of three grades: *Lehrer*, (teacher;) *Oberlehrer*, (over-teacher;) and professor. Examinations of different degrees of severity, according to the grades in the profession, are conducted by government-officials, and certificates given. No one can teach in a public or private school in Germany without such certificate. Most teachers of high schools are graduates of a university, and most of the common teachers are graduates of some teachers' seminary. Thus, all teachers, whether public or private, are under the control of, and amenable to, the government; which is exceedingly strict and dictatorial in this department of public service.

The profession of teaching assures to a man a high standing and social position, owing, in large measure, to the fact of teachers being government-officers, and of certain literary attainments. As a class, they are thoroughly well-informed in matters relating to their special calling, and anxious for reforms in the system. Teachers in Germany are poorly paid; their salaries ranging from 200 or 300 thaler in the country to 600 or 1,000 thaler in the city, rarely reaching 1,500 thaler per annum. They are not worked so severely as our teachers, and often add to their income by giving private lessons. Lady teachers are rarely employed in the public schools; never in teaching boys beyond ten years of age, seldom girls of twelve. For some years a limited number have been employed in the lowest schools of the cities, but their number does not increase to any considerable extent. Neither government, professors, nor the community consider women fitted for this work. The director of the Friedrich-Wilhelms Real-Schule, Dr. Ranke, concludes, from his experience, that ladies are too irritable, and possess too little self-control, to instruct and manage children well. The superintendent of schools in Munich objects to them on account of their great susceptibility to the influence of the priests. Others think that their influence in boys' schools tends to develop effeminacy in the lads. With such sentiments pervading the community, it is easy to see that women have a difficult task to establish and maintain a reputation as teachers.











370.6  
U58c  
1874

CODDERSLEY LIBRARY

12729

LEAFY, SCHOOL OF EDUCATION

